AMERICAN GAS ASSOCIATION

Monthly

FEBRUARY
1961

The Bing Crosby 72-hole $50,000 Pro-Amateur Golf Tournament will be played at Del Monte Lodge in Pebble Beach, California, January 19-22, 1961

"Pro-cooking is Gas-Cooking," says Bing

When Bing Crosby is off the fairway he and his guests often relax in the warm atmosphere of famous Scandia Restaurant on Sunset Strip in Beverly Hills.

Everything at Scandia from the sumptuous Smorgasbord and the charming Scandinavian decor contributes to a feeling of well-being. The Hansens make charming hosts and are certain that all their Scandinavian delicacies are cooked at exact temperatures with Gas, the fastest, the most flexible fuel.

You'll find gas appliances in all kitchens of the nation's outstanding clubs, restaurants and hotels from coast to coast. Gas gives the precise temperature control required to bring out all the natural goodness and appetizing appearance of food.

When you're planning to install a new kitchen or expand or remodel your present one, be sure to consult your Gas Company's Commercial Sales Specialist to discuss the outstanding results and economies you get with modern gas equipment. *American Gas Association.*

Owners, Ken Hansen, left, and his sister-in-law, Mrs. Hansen, make a happy after-golf foursome with Larry Larson of Southern California Gas Company and Bing Crosby at their Sunset Strip restaurant.

FOR COOKING...GAS IS GOOD BUSINESS

• This ad is appearing in NEWSWEEK, January 23, 1961, and COMMERCIAL KITCHEN EQUIPMENT & SUPPLIES, February 1961

Her own gas kitchen is one reward for being grown-up, for former child star Margaret O'Brien (see page 4)

WITH January's business and statistical reviews out of the way, and the year's conference season not yet begun, this issue provides an opportunity for presenting a variety of articles on subjects the editors have found interesting—and believe you will, too. . . . For example, we were able to include two pieces practically bracketing the range of gas company research—from a gas coffee maker invented by a company employee (page 15) to synthetic gas produced by atomic energy (page 13). . . . The latter story might be of some interest to the coal industry. . . . Synthetic gas research, it seems to us, is an area where these two great competing industries could work together with great and lasting mutual advantage. . . . In the MONTHLY'S (somewhat clouded) crystal ball appears the picture of the two industries working together as one—or at least as allies, rather than competitors—with the single objective of supplying the consumer with an ample supply of gas . . . and this in the not-too-far distant future. . . . An example of the kind of cooperation we like to see is provided in the story by Detroit's Air Pollution Control chief, of how that city and the gas industry joined forces in development of the new smokeless-odorless gas incinerators, now re-named disposers (see page 29), . . . and there are many other features, all of which we recommend to you.

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Gas first in line for World's Fair

J. Anthony Panuch, World's Fair vice president, points out site of future gas industry building on model of fair grounds, for Stanley B. Finch, executive secretary, and John E. Heyke, president, Gas, Inc., and Thomas J. Shanley, A. G. A.

The gas industry has become the first tenant of the 1964-65 New York World's Fair. This step was accomplished in January by means of two signatures—one on a contract, the other on a $100,000 check.

The signatures are those of John E. Heyke, president of The Brooklyn Union Gas Company and vice president of the American Gas Association. Mr. Heyke signed the contract and turned the check over to the New York World's Fair Corporation as president of Gas, Inc. The corporation was formed by A. G. A. to design, construct and operate the gas industry exhibit at the fair.

The contract signing, on January 13, followed by one day the dedication of the fair's new administration building, where gas is used for all heating, air conditioning, water heating and cooking.

In presenting the industry's check for half of its first year's rent at the fair, Mr. Heyke observed that "history is repeating itself." The gas industry was the first lessee to contract for exhibit space at the 1939-40 New York World's Fair.

The signing also came within a week of the 23rd anniversary of another gas industry "first." Ground was broken January 18, 1938, for the New York World's Fair's first private building—the gas exhibit—which was host to nearly seven million visitors in 1939 and 1940.

Walter Dorwin Teague Associates, one of the nation's leading architectural and industrial design firms, has been retained to draft plans for the $5.5 million gas industry exhibit.

The exhibit will be built in the industrial area, part of a 223-acre tract set aside by the World's Fair Corporation for state, international, industrial and transportation exhibitors.

The gas industry building will occupy about 60 per cent of a choice 50,000-square-foot corner plot near the fair's main entrance and adjacent to the "lagoon of the nations." All or most of the materials used in constructing the building and

gning follows by one day dedication of new gas-equipped administration

ilding on New York World's Fair site at Flushing Meadows, where gas industry

hibit building, already in planning stage, will be among first to rise

John E. Heyke turns over $100,000 check to J. A. Panuch as down payment on rent for gas industries exhibit area at 1964 World's Fair

Gen. Wm. Whipple, Jr., chief engineer, and F. D. Woods, Brooklyn Union Gas Co., survey fair grounds

its exhibits will be either gas-processed or of a type in which natural gas is a principal raw material.

World's Fair Corporation officials have estimated that more than 70 million people will visit the 1964-65 fair, compared with some 45 million who attended the earlier New York fair and less than 42,500,000 who visited the 1959 Brussels Fair.

Preliminary designs for the gas building are to be submitted to Gas, Inc., on May 1, and final designs are due in February, 1962. Construction is slated to begin in April, 1962, and the building is to be completed in September, 1963.

The Teague organization will present its preliminary designs for the industry exhibits May 1, 1962, and will begin construction in November of the same year. The timetable shows the exhibits are to be installed in the gas industry building in October, 1963, with January 31, 1964, as the final completion date for all physical preparations.

Personnel employed by the fair corporation already are using the administration building, a one-story, H-shaped structure and the first new building to rise on the Flushing Meadow fair grounds. Gas heats and air conditions staff offices, and an all-gas kitchen is equipped to handle the staff's daily cafeteria needs. During dedication ceremonies in mid-January, the kitchen was used to cater hot dinners for 700 visitors.

Brooklyn Union Gas Co. has surveyed existing gas mains used in the 1939-40 exposition and will make additions to the distribution system well in advance of construction of the new fair's exhibit buildings. The over-all aim is to make not only the gas building but the entire fair a showplace for gas heating, air conditioning, water heating and cooking equipment.

(Continued on page 8)

GAS CLIX IN PIX, WOWS TV NETWORKS

Jerry Lewis finds happiness with an RCA Whirlpool gas refrigerator. Jerry is appearing in "CinderFella"

Gas going great in show biz, lands lion's share of kitchen, laundry parts in movies, video series

From Bing Crosby to Margaret O'Brien, Jerry Lewis to Janet Leigh —A. G. A.'s Hollywood Bureau continues to cover a lot of footage in Hollywood. Those named are only a few of the top personalities who appeared with gas appliances in films in 1960.

Exposures of gas appliances in motion pictures, TV shows and commercials, and trade films totaled 1,403 in 1960, in spite of a four-month actor-writer strike which stopped production.

Of 17 new TV series produced in 1960, 15 used all-gas kitchens. Even more significant in TV—of 59 series that used appliances in their sets throughout the year, 53 used gas appliances exclusively.

Hollywood's current penchant for historical epics and biblical stories gave the Bureau its biggest challenge in '60—in spite of eloquent persuasion, no one was convinced that Spartacus cooked with gas! However, 22 films were produced using modern kitchen sets, and of these, 20 used gas appliances. Most of the films were high-budget "A" pictures, showcasing deluxe ranges and refrigerators in elaborate kitchen sets. For example, one of Walt Disney's top productions for 61, "The Parent Trap," will show the newest wall-hung range, along with a gas barbecue and two gas refrigerators, side-by-side.

Gas appliances were seen by millions in kitchen sets of movies, TV shows and commercials, trade films and national magazines. A brief list of a few of 1960's top exposures includes:

TV Filmed Series (almost every week)

"Dennis The Menace," "Angel," "Pete & Gladys," "The Donna Reed Show," "The Tom Ewell Show," and "Harrigan and Son."

TV Filmed Spots (shown over and over again)

DuPont, Carnation Milk, Kraft Foods

Bing Crosby seems as much at home in this gas kitchen set for 20th-Century Fox's "High Time" as in his own gas kitchen

Steve Allen stars in Universal's "College Confidential." Norge gas appliances play a supporting role

A.'s Pat Nicholson, l., Norval gt, r., on TV set with Barbara ck and director David Rich

Rugged actor Glenn Ford is "home on the range" with his own O'Keefe & Merritt gas built-in

Post Cereals, Schlitz Beer, Quaker Oats, Kellogg's Cereals, Tide, Purex, Pet Milk, Kaiser Steel, Goodrich Tires, Miller Beer, General Motors, Allis-Chalmers Tractors, Heinz Foods, Royal Crown Cola, Johnson's Wax, Campbell Soup, Alka-Seltzer, Gulf Oil Company.

Motion Pictures

From 20th Century-Fox: "High Time," starring Bing Crosby; "Madison Avenue," starring Dana Andrews.

From Walt Disney: "The Parent Trap," starring Maureen O'Hara; "The Absent-Minded Professor," starring Fred MacMurray.

From Warner Brothers: "Parrish," starring Claudette Colbert.

A number of personality tie-ups, including legal releases and technical arrangements, were made, as follows:

Jayne Mansfield has become a good gas saleswoman, endorsing Norge gas refrigerators, a line of patio gas appliances, gas fireplace logs. In addition, she made a personal appearance to dedicate a new pipeline opening up a natural gas area in the Northwest.

Bing Crosby was featured in a magazine ad for *Newsweek* in connection with commercial cooking, as a result of the movie, "High Time." Bing also is featured in a prestige restaurant ad for commercial gas cooking.

Jerry Lewis endorsed the new RCA-Whirlpool gas refrigerator, and a newspaper ad mat was made available to member companies, tieing-in with his picture, "CinderFella." An additional tie-up was arranged with Jerry posed by a gas range for a manufacturer.

Glenn Ford endorsed a new gas home air-conditioner for newspapers, trade papers, and made radio spots, soon to be available.

Donna Reed, for the third straight year, has endorsed gas appliances in the newly-remodeled I-XL kitchen set

Jayne Meadows does a scene with a gas washer-dryer combination in Universal's new motion picture, "College Confidential"

GAS CLIX IN PIX, WOWS TV NETWORKS

Janet Leigh [illegible] a champagne with ice cube[s] a gas refrige[rator]

Donna Reed, top film and TV star, shows the I-XL all-gas kitchen set she uses on her program, "The Donna Reed Show"

for her popular TV show.

Margaret O'Brien made a personal appearance to officiate at the opening of an all-gas builder tract in the Northwest, and posed for a national magazine story, featuring her new all-gas kitchen.

Publicity service, consisting of photos, story synopsis and billing instructions for each show, was sent out during the first-half of 1960 to subscribers for *Playhouse 90*, and for *The Barbara Stanwyck Show* the last half of the year.

The scope of the Bureau's activities extends beyond the entertainment world. Close liaison is maintained with PCGA utilities in presenting PA[R] Programs, and advisory assistance i[s] given the PCGA Sales & Advertisin[g] Section.

Over-all, even though some films wer[e] historical, the A. G. A. Hollywood Bu[-] reau continued to show the America[n] public that *gas* is *modern*.

View of Stockholm, where IGU will meet in June, showing stately Town Hall on the banks of Lake Mälaren

Gas men of many nations to meet

Stockholm, Sweden, will be the scene in June of an international gathering of gas industry executives, including more than 100 A. G. A. members from companies throughout the United States.

Charter plane passage has been scheduled for a maximum of 100 delegates and their families to the 30th Anniversary Conference of the International Gas Union, to be held in Stockholm June 27-30.

By mid-January, a total of 125 gas men and wives already had indicated interest in attending the Conference.

Speakers at the international conference will include representatives of Australia, Austria, Belgium, Czechoslovakia, France, Germany, Britain, Italy, the Netherlands, Roumania, Sweden, Switzerland, the U.S.A., and the U.S.S.R.

Talks will cover gas industry problems of all these countries. Following are a few of the topics to be discussed:

"Liquid natural gases for town gas supply," by J. Burns and L. Clark, Great Britain.

"The problem of underground storage in the U.S.S.R.," by N. S. Erofeev, U.S.S.R.

"The utilization of the jet compressor for the transmission of natural gases in the Roumanian People's Republic," by Ing. A. Pascaru and Ing. P. Svoronos, Roumania.

"Gas leakage detection by dogs," by Ir. J. van Dam van Isselt and Ir. J. G. de Voogd, Netherlands.

"Gas sales promotion technique," by R. Dury and J. Charlier, France.

Speakers from the U.S.A. will be G. N. Hatsopoulos and J. A. Welsh, "Thermionic converters for the direct generation of electricity from gas"; G. Weiss, "Gas-fired thermocatalytic reactors"; and G. R. Benz, "Liquefied gas storage in caverns."

Other papers will cover numerous aspects of gas production, distribution, transport, and utilization in the countries represented.

The International Gas Union comprises 17 member countries including all of the chief countries in the world where gas is of major economic importance. Originated in 1931 by Great Britain and France, the organization was immediately joined by the gas organizations of Belgium, Germany, the Netherlands, Norway, Sweden, Switzerland and the United States with the remaining member countries following suit in later years.

The IGU could perhaps be regarded as a "super-Association," made up of the gas associations of member countries

rather than individual companies.

Its objective, as stated by a recent president, is "the study of everything relating to the gas industry with the object of promoting its progress." To that end, I.G.U. "maintains cordial relations between the members," and "organizes international Congresses at regular intervals and publishes reports of these Congresses, together with papers and various other documents relating to its aims."

In addition to these functions, the I.G.U. maintains a number of standing committees, much like those of A. G. A. Typical committees are those concerned with gas appliance testing and standards, and with promotion and advertising.

Exchange of information and experience between the gas industries of the various member companies, for mutual benefit, obviously is an over-all objective of the organization. The Stockholm conference will provide an excellent opportunity for such exchange.

Permanent headquarters of the International Gas Union is at 4 Ave. Palmerston, Brussels, Belgium. R. H. Touwaide is general secretary. Present president is Bengt M. Nilsson, president, The Swedish Gas Association.

The charter flight for U. S. gas industry men planning to attend the Stockholm conference, according to present plans, will leave New York on Saturday evening, June 3, arriving in London, and will depart from Stockholm on Sunday, July 2.

This schedule will provide the U. S. delegates an opportunity for travel and vacationing in Europe prior to the conference in Stockholm.

Plans are for accommodations aboard a BOAC jet-prop "Britannia 312," at rates considerably below regular commercial airline fares.

Arrangements for the flight are being made through A. G. A. Inquiries may be directed to Jac A. Cushman, secretary, American Gas Association, 420 Lexington Ave., New York 17, N. Y. To assist delegates in planning European itineraries in addition to the charter flight, A. G. A. has appointed Raymond & Whitcomb Company, New York, as travel agent.

Under CAB regulations, the flight is available to individual members of A. G. A. and their families.

World's Fair

(Continued from page 3)

Mr. Heyke, in a meeting of the Gas, Inc., board on January 24, told directors that gas companies have shown an excellent response during the month and a half since the World's Fair subscription campaign opened. Sixty-seven companies now have formally pledged financial support of the industry exhibit.

He also reported the election of Otto W. Manz, Jr., and Harry N. Forman to the corporation's board. Mr. Manz, past chairman of A. G. A.'s General Management Section, is executive vice president of The Consolidated Edison Co. of New York, Inc., New York City. Mr. Forman is president of National Propane Corp., Garden City, N. Y.

William G. Hamilton, Jr., president of American Meter Co., Philadelphia, serves as executive vice president of Gas, Inc. Other officers include James Comerford, board chairman of the Consolidated Natural Gas Co., New York City, treasurer; and Stanley B. Finch, executive secretary and coordinator of gas utility and gas equipment manufacturers' trade groups.

Members of the corporation's board include Marvin Chandler, president, Northern Illinois Gas Co.; C. V. Coons, executive vice president, Rheem Manufacturing Co.; Wendell C. Davis, president, Cribben & Sexton Co.; Joseph J. Decker, president, American-Standard Plumbing & Heating Div.; W. M. Elmer, president, Texas Gas Transmission Corp.; and Frederic O. Hess, president, Selas Corp. of America.

Also T. H. Kendall, president, South Jersey Gas Co.; Julius Klein, president, Caloric Appliance Corp.; Wister H. Ligon, president, Nashville Gas Co.; Charlton H. Lyons, Sr., Lyons and Logan; Harold Massey, managing director, Gas Appliance Manufacturers Association; E. Clyde McGraw, president, Transcontinental Gas Pipe Line Corp.; Ralph T. McElvenny, president, Michigan Consolidated Gas Co.; Robert T. Person, president, Public Service Co. of Colorado; L. T. Potter, president of A. G. A. and president, Lone Star Gas Co.; and C. S. Stackpole, managing director, A. G. A.

Research and Utilization Conference in Cleveland, April 4-6

Highlights of the Association's PAR sponsored Domestic Gas Research program will be reviewed and utilization problems will be discussed when the sixteenth Annual A. G. A. Research and Utilization Conference meets in Cleveland April 4, 5 and 6, 1961.

The Conference is the only national meeting devoted to bringing the industry's executives, technical, sales, customer service leaders up to date on the research advances being made in the gas industry.

The Conference Committee, headed by Paul J. Reynolds, vice president and general manager, Northampton Gas Light Company, has developed a program of broad interest, directly pertinent to field utilization problems and designs of the future as portrayed by today's research advances.

Prominent speakers both in and outside of the gas industry, will address Conference sessions and luncheons. Highly qualified researchers and technical leaders from the industry will present formal papers on such subjects of current interest as house heating equipment research, utilization problems and competitive aspects; latest developments in the area of thermoelectricity, fuel cells and thermionics; pre-adjusted range field experiences; new developments in gas ignition; new approaches to incinerator odor measurement; water heater corrosion; and other subjects of research.

Other highlights of the Conference will be a display and demonstration of recent research advances in hardware stages, and an "Off the Record" discussion period devoted to problems brought to the floor by those in attendance.

Joe C. Darrow, vice president, Lone Star Gas Company, is chairman of the Committee on Domestic Gas Research, which sponsors the Conference in conjunction with the A. G. A. Utilization Bureau.

Additional details of the program will appear in the March issue of the A. G. A. MONTHLY.

A. G. A. General Convention Committee met in Dallas last month to lay plans for fall meeting, donned 10-gallon hats for bus tour of "Big D" area. L. A. Bickel, Lone Star Gas Company, is 1961 chairman

'61 Convention to be 'Texas-sized'

A Convention "as big as the heart of Texas" is planned for America's fifth largest industry in Dallas, Texas, October 1-4, 1961.

L. A. Bickel, Vice President, Lone Star Gas Company, and Chairman of the Association's General Convention Committee, reports that the 43rd Annual A. G. A. Convention will be devoted to the over-all theme of Gas Industry Development.

The 1961 A. G. A. Convention promises to be memorable in many ways. It will be the climax of L. T. Potter's term as President of the American Gas Association, and will provide in effect a stirring salute to Mr. Potter—one of Dallas' leading citizens.

This will be the first time that A. G. A. has held its annual convention in the State of Texas—the backyard of the natural gas industry. Consequently, the Committee believes the 1961 Convention offers an exceptional opportunity to acquaint all sections of the industry with the growth possibilities of the gas business. An inspiring program with many exciting innovations is promised.

The first General Session on Monday morning, October 2, to feature a spectacular opening ceremony, will probably be located in the arena of the Municipal Auditorium. The Tuesday and Wednesday morning General Sessions will be presented in the Grand Ballroom of the Statler-Hilton Hotel.

Monday evening, October 2, will be devoted to the President's reception, entertainment and dance. Tuesday evening will be "open night," for visiting and informal social events. The Convention will close with an inspiring General Luncheon on Wednesday, October 4.

A special program of events is planned for the ladies. This year, ladies, other than company employees, will be charged a $10 registration fee, to be paid at the time their husbands pick up their Convention portfolios in Dallas.

Delegates from all sections of the gas business will be invited to attend the "big show" in Dallas, in order to become better acquainted with the oppor-

(Continued on page 14)

Rewriting Lincoln: A parable for PR practitioners

(In view of the many committees carrying on the work of the Association, and from time to time issuing communications, the following is reprinted by special request from the New York World-Telegram & Sun, *December 22, 1960.)*

By ALFRED RUSSELL

. . . some time ago William Van Dusen, now VP-PR for Eastern Air Lines, was acting as a consultant. Trapped in a three-hour Sunday morning session with nine Most Important Executives, all absorbed in rewriting the ninth version of a Very Vital Statement, his mind took a fanciful turn to escape frustration and boredom.

Imagine, he thought, what would have happened if Abraham Lincoln had had to clear his Gettysburg Address with these guys before delivery. The travesty might have gone this way:

CHAIRMAN: You all have copies of Abe's draft? . . . I think it sounds pretty good—in general. But a lot of people are going to be listening so we've got to be careful.

Let's take it sentence by sentence.

"Four score and seven years ago, our fathers brought forth on this continent a new nation, conceived in liberty and dedicated to the proposition that all men are created equal."

Wow! that's a long sentence. I can hardly read it, let alone speak it. Let's see . . . "Four score and seven years ago."

FIRST V.P.: How long is that? Eighty-seven years. Then why not say 87 years?

SECOND V.P.: I agree. But what do you really mean? If we mean 1776, let's say so.

CHAIRMAN: Is that OK with everybody? Then let's make it read: "In 1776 . . ."

THIRD V.P.: Those next words "our fathers." A lot of people could misunderstand that. Remember the Southerners had fathers too. . . . They might charge we are taking all the credit.

CHAIRMAN: You're right. Why do we need it anyway? . . . Now let's go on: "brought forth on this continent. Now, it seems to me we can improve that.

SECOND V.P.: If that means "America —then, why don't we say so?

FOURTH V.P: Aren't the next words tied into that, "brought forth on this continent a new nation"? I think we could make it much clearer.

CHAIRMAN: I got it! I got it! Listen to this:

In 1776 the United States of America was founded.

ALL V.P.'s: That's fine chief. Brief, hard-hitting. To the point.

FIFTH V.P.: I've been worrying about that next phrase: "conceived in liberty." Now that sounds pretty sexy to me.

CHAIRMAN: I see what you mean, Abe, any suggestions?

ABE: In the interests of saving everyone's time, why not just discard the draft and start over again?

CHAIRMAN: Right. Let's have the lawyers draw up something we can take a look at. . . .

Meet your Association staff

Mary Hackett

One of the most bustling folks at A. G. A. (though her boss runs a close second) is a tall, attractive widow named Mary Hackett. She is secretary to Jac Cushman, who is secretary of A. G. A. and A. G. A. Convention manager. Mary came to the Association, she says, "Oh, way back when." She adds, "I'm a holdover. I go along with the office, like the furniture and the files."

Mary describes herself airily as "a behind-the-scenes worker, you might say." This is a fairly accurate description, for her duties closely parallel those of her busy boss and include matters relating to the A. G. A. Executive Conference Committee, General Nominating Committee, Library, and Membership Department. She plays an important part each year in preparations for the A. G. A. Convention.

With such a full and varied schedule, Mary has become an expert in the art of following through. This comes naturally enough from her long experience in the executive branches of the Association.

Mary was born and bred in Yonkers, N. Y., and lives there now with her son at their home, which they call "Ample Acres." However, she says she hasn't a green thumb and doesn't know a weed from a plant.

One of her hobbies is acting as agent for her son, who is an amateur philatelist. She is an earnest pursuer of crossword puzzles, and though she doesn't solve them all has a try at them, with typical Hackett *esprit*.

She does a bit of traveling and still raves about a recent trip to Acapulco. However, she feels her diversions lack a certain something. "I wish I could say I'm a swami and tell fortunes on the side. But I don't know how to read tea leaves, and don't drink tea, actually."

The peculiar vitality that Mary Hackett lends to her conversation, her personality, and her job may be accounted for by her national heritage. Half-Irish and half-English, she says her father used to tell her she was "a cross between an Irish harp and an English bulldog"—by no means a dull combination.

Julia Meade says, "Gas Blanket-O-Flame burners—result of a million dollars of research—mean even heat"

"For economy and speed's sake, you need a gas water heater," says Vern Collett, A. G. A.'s new TV spokesman

Party giving is made easy with new gas oven low temperature control to keep food just right until served

This month, and in the weeks to come, millions of television viewers are being introduced to many of the newest gas appliances as they are shown nationally for the first time on the gas industry's network television programs.

As reported in the January MONTHLY, A. G. A. has added a second show, *Laramie*, to its national TV campaign. Monday nights on the *Barbara Stanwyck Show* (10:00-10:30 P.M. EST) and alternate Tuesdays on *Laramie* (7:30-8:30 P.M. EST) NBC-TV viewers will be seeing demonstrations of such gas appliance features as the new 140° keep-warm oven control and "Blanket-O-Flame" top burners.

Modern styling, automatic features and all-around convenience also are emphasized in new commercials created for the current viewing season.

The pictures on this page provide some idea of the convincing way in which A. G. A.'s national TV commercials are carrying the story of gas to the American consumer. Commercials may also be shown locally.

TV commercials feature new personalities

"The fashion-styling of gas puts everything at your fingertips," says Julia Meade of this revolutionary range design

Industrial relations round table

Prepared by
A. G. A. Personnel Committee

Edited by W. T. Simmons
Assistant Personnel Manager
Philadelphia Electric Co.

● **Old-style management thinking challenged**—Most of today's management thinking is forged to meet the needs of a feudal society, according to Douglas McGregor, professor of industrial management at Massachusetts Institute of Technology. In his book recently published by McGraw-Hill Book Company and entitled *The Human Side of Enterprise,* he has clearly outlined a basis for achieving greater productivity and responsibility among working people.

Mr. McGregor has presented Theory X as the traditional framework for management thinking based on the following assumptions: (1.) The average person has an inherent dislike for work and will avoid it if he can. (2.) Because of this, most people must be coerced, controlled, directed, and threatened with punishment to get them to put forth adequate effort toward the achievement of organizational objectives. (3.) The average person prefers to be directed, wishes to avoid responsibility, has relatively little ambition, and, above all, wants security.

Author McGregor has offered Theory Y based on the following assumptions: (1.) The expenditure of physical and mental effort in work is as natural as play or rest. (2.) External control and the threat of punishment are not the only means for bringing about effort toward organizational objectives. (3.) Commitment to objectives is dependent on the rewards associated with their achievement. (4.) The average person learns under proper conditions not only to accept but also to seek responsibility. (5.) The capacity to exercise a relatively high degree of imagination, ingenuity, and creativity is widely, not narrowly, distributed in the population. (6.) Under the conditions of modern industrial life, the intellectual potentialities of the average person are only partially utilized.

Mr. McGregor has stated that under the assumptions of Theory Y the work of the manager is to integrate the needs of the employees with the needs of the enterprise. The industrial manager's task is to help the adults with whom he is dealing to discover the objectives consistent with organizational requirements and with their own personal goals.

● **A recipe for getting results**—Oliver Hampeter in the April issue of *Supervision* stated that when you don't get the results wanted from your instructions to others, the fault may be due partly to vagueness in the directions. The hard but sure way to give clear instructions is to put them in writing, thus definitely accomplishing these essentials of good supervisory direction: (1.) avoiding confusion by making sure the instructions get to the right man, (2.) avoiding oversight on your part by putting things down on paper before you forget them, (3.) preventing interruption by giving others written directions that won't disappear before they hang up the phone, (4.) helping others remember by letting your written words serve as reminders, (5.) saying exactly what you mean—an easier task when you write it out for your own critical reappraisal, (6.) safeguarding important details by including them in the written statement for future reference, (7.) helping others develop by eliminating vagueness from the jobs they are supposed to master.

● **Questioning workers**—An employer is always free to question a worker to find out the underlying causes for dissension in the ranks; but if he says anything that tends to interfere with the right of his employees to organize, he can be guilty of an unfair labor practice.

How to walk a straight line between getting useful information and tangling with the law is not easy, particularly when National Labor Relations Board members with years of experience disagree as to whether or not, in a given situation, the employer has exceeded the bounds of proper investigation.

NLRB Member Jenkins thought that the personnel manager of Anderson Air Activities, Malden, Mo., who cross-examined an employee about a bad employee situation, was not legitimately motivated. Said he, "The eager inquisitive nature of his questioning, coupled with a comment which might have been construed as a promise of benefit, demonstrated more than a mere interest in employee dissatisfaction as such. Viewed in context, it appears to me to be a patent attempt to get information about the union in a coercive manner prohibited by law."

His fellow members on the board disagreed. They felt that the only reference to the union made by the personnel manager was that he knew union cards were floating around and that if the employees wanted a union, it was their own business. What counted most in favor of the company in the board's decision was the firm's previous record of being free of union hostility. But it does remind employers that it is all right to investigate discontent in the ranks—even if a union is hovering at the door—provided nothing is said for or against the union. Promises of benefit if the union is kept out and threats of dire consequences if the union is voted in must not be made.

● **Seniority credit for supervisory ranks**—Have union members been reluctant to accept supervisory jobs? A seniority clause in your contract may overcome their reluctance.

One place to look for supervisors is the bargaining unit. When you find such a union member, you would like him to accept the promotion. He may not do so if he feels the supervisory job may be eliminated some day in the future. In that case, he might not be able to bounce back into the unit; or if he does bounce back, he may not receive seniority credit for the time spent as a supervisor. He is jittery, and rightfully so, when the union contract is silent on the subject. Arbitrators disagree as to the handling of such cases and security-minded union members like certainty. Some arbitrators have ruled that seniority may be acquired after promotion to a supervisory job. Others say no.

In 1958 the duties of a supervisory employee of the Standard Oil Company were eliminated. The incumbent was bumped back into the unit from whence he had come some 15 years earlier—1943. The union objected because, at the time, one employee was on a layoff and another was laid off shortly after the bump back.

The arbitrator who heard this case granted the supervisor seniority back to the date of hire—1939. But this result is not a certainty for other cases. Specific language in the contract covering the situation may encourage the rank and file to accept promotion to supervisory ranks.

● **Arbitration decision**—Rule violations—Sometimes there is just no way of predicting how an arbitrator will react to the penalty one may impose for a rules violation. It is arbitration roulette.

Innumerable articles have been written about how arbitrators handle discipline cases. Tips are offered about how to impose penalties that will stick. One such is "The punishment must fit the crime." If an employee clearly violates a safety rule and if company property is damaged to the extent of several hundred dollars, a layoff of five days would seem to fit the crime. Who could say that a penalty of four, three, or two days would be more fitting? An arbitrator, and in this case he did.

An airplane hangar employee left a cart within a forbidden zone marked by a yellow line. An overhead door was lowered and damaged the equipment—just what the yellow-line zone was supposed to prevent. In reducing the penalty from five to two days layoff, the arbitrator found these mitigating circumstances:

The employee had a good record (but he knew about the zone and the risk).

The yellow safety line had faded (but was clear enough to notice).

He left the cart so it would not be in the path of an incoming airplane (from the frying pan into the fire).

The door was closed by an unauthorized employee (if the cart hadn't been there, it would not have been damaged).

Columbia University researchers lower samples of coal char into a radiation pool to synthesize high-Btu methane

Hi-heat gas from low-cost coal?

Will 1,000-Btu gas someday be made from coal? Consolidated Natural Gas Company is sponsoring research aimed at finding out.

In years past, a number of utilities manufactured gas converting coal to a low-heat product with a Btu content of about 500. Now practically all utilities furnish natural gas for normal demand. When winter peak gas is needed, a few utilities supplement their supply to customers by injecting air-propane mixtures into the lines or manufacturing substitute gas from oil.

A process for getting gas with high heating value from low-cost coal would benefit both the seller and the buyer. It might be one answer to the increasing costs of developing new supplies of natural gas, and it would give the consumer even more assurance of a steady fuel supply for many years in the future. Because the largest coal fields are in the East near major gas-consuming cities and some of them are near our transmission lines, such a process would be all the more welcome.

Using a Consolidated grant, scientists at Columbia University are experimenting with gamma radiation from cobalt-60 to convert coal char to methane, the major ingredient of high-heat natural gas. Coal char is coal from which the most volatile ingredients have been released by heat. It has properties between those of coal and coke and is about 90 per cent carbon.

One of the largest radiation sources of its kind in this country is being used by the Columbia scientists. The source is radioactive cobalt yielding about 3,000 curies of radiation energy—the energy released by the disintegration of 100 trillion atoms every second. The cobalt, in eight pieces, is immersed in a pool of water 16 feet deep. The pool is in a new concrete block building specially erected for this research on the university's New York City campus.

The researchers expose a gram of coal char and hydrogen or steam to the gamma radiation for periods ranging from one hour to one day, depending on their objective, at temperatures up to 1,400 degrees F. and at pressures up to 1,500 pounds per square inch. At the lower pressures and temperatures employed to date, traces of methane have been found. At relatively high pressures and temperatures, higher yields of methane are expected.

But according to Consolidated's director of research, Dr. F. E. Vandaveer, "there is still a lot of work to be done before we can answer the many questions about possibilities of using atomic radiation to make natural gas out of coal, hydrogen and water."

Co-directors of the project at Columbia are Drs. Edward F. Leonard and George R. Marr, Jr., assistant professors of chemical engineering. Full-time researchers include two men with Ph.D. degrees in chemistry and two with B.S. degrees in engineering.

The dean of Columbia's School of Engineering, Dr. John R. Dunning, calls the experiments "outstanding fresh work in a most promising field." Commenting on Consolidated's 1960 grant of $63,750, he said, "American industry is sometimes criticized for not putting enough emphasis on basic and long-range research; but here is a notable instance of the technological statesmanship that private industry can exercise.

"Since natural gas has compelling advantages for many purposes, it becomes readily apparent that we ought to be looking for new ways to make an economical substitute for the natural product," Dr. Dunning said. "One particularly advanced line of research is the use of atomic radiation in catalysis—that is, molecule building—to convert substances into gaseous fuels."

(Ed. note: This article is condensed from THE RIG, published by New York State Natural Gas Corporation, a subsidiary of Consolidated Natural Gas Company, as an example of research work being done by A. G. A. member companies.

Radiation is but one of the many means being explored by gas industry research for obtaining high-Btu synthetic gas from coals and oil shales.)

Convention

(Continued from page 10)

tunities and challenges facing the industry, to recharge their enthusiasm for gas, exchange ideas, and renew valuable business contacts.

The following hotels have been designated as Headquarters for the various A. G. A. sections:

Adolphus—Operating Section
Baker —Accounting Section
Sheraton —Industrial and Commercial, and Residential Gas Sections
Statler —General Management Section

The same type of PREregistration and Housing system employed successfully at the past three A. G. A. Conventions will be used in Dallas. All requests for room accommodations should be submitted to the A. G. A. Housing Bureau in Dallas on the official PREregistration and Housing Application, which will be mailed to all A. G. A. members late in February. Early response is requested.

"Come early and come together" is the password for the 1961 Convention. Dallas can be reached by jet from any section of the country in approximately two or three hours flying time. The Committee recommends that delegates plan to arrive either Saturday or early Sunday, and that gas companies located in the same region get together and work out charter flights with the major airlines.

Plans for the Dallas Convention are under direction of the A. G. A. General Convention Committee, whose membership is as follows: L. A. Bickel, chairman, vice-president, Lone Star Gas Company; Wendell C. Davis, president, Cribben & Sexton Co.; George P. Garver, president, Natural Gas Pipeline Co. of America; Francis K. Godwin, president, The Petersburg & Hopewell Gas Co.; Wm. G. Hamilton, Jr., president, American Meter Co., Inc.; A. W. Johnston, vice president, Boston Gas Company, Boston, Mass.; David J. Kerr, executive assistant, Southern Union Gas Co.; Walter T. Lucking, president, Arizona Public Service Co.; Gerald T. Mullin, president, Minneapolis Gas Co.; John W. Partridge, president, United Fuel Gas Co.; Robert T. Person, president, Public Service Co. of Colorado; Willis A. Strauss, president, Northern Natural Gas Co.; Charles M. Sturkey, executive consultant, Washington Natural Gas Co.; Robert H. Willis, vice president, Stone & Webster, Inc.; J. H. Wimberly, president, Houston Natural Gas Corp.; Jac A. Cushman, secretary and convention manager, American Gas Association.

Serving on the committee in ex-officio capacity are: L. T. Potter, president, A. G. A.; E. H. Smoker, first vice president, A. G. A.; John E. Heyke, second vice president, A. G. A.; Harold Massey, managing director, Gas Appliance Manufacturers Association; Robert R. Suttle, managing director, Southern Gas Association.

Gas code bill becomes law in Massachusetts

By JOHN J. MOLLOY

Assistant Director of Public Relations
New England Gas and
Electric System

When "Senate 707," better known as the "Gas Code Bill," was finally signed into law by Governor Furcolo on October 28, 1960, it marked the successful culmination of several years of work by a combined team of gas company experts who, together with officials of the Massachusetts Department of Public Safety and Public Utility, had long sought a remedy for the statewide lack of uniformity on gasfitting.

The gas industry which so methodically and painstakingly transports its product over thousands of miles of pipeline and distribution systems, has long been confronted with a lack of regulation or standardization in the final link-up of the fuel, within buildings and into the various appliances.

A general committee consisting of gas company engineers, associations of plumbers and pipefitters, various inspectors and members of the D.P.U., labored well over two years to iron out the multiple complexities included in the installation, alteration and replacement of fixtures, appliances and facilities used in connection with gas.

From these numerous committee meetings a legislative bill was drawn up and presented to the General Court in 1959, but even at this point there were questions still not resolved, and the legislature took no action that year.

Early in the Spring of 1960, the Gas Committee, under the Chairmanship of NEGEA's Mort Griffith, re-introduced the bill and called for a Board to supervise the intended legislation. Under the able leadership and enthusiastic guidance of Senator Mary Fonseca of Fall River, hearings were held and during the summer months the Code Bill underwent some further change and the lengthy but necessary legislative scrutiny.

Other members of the committee included Edward F. Kennedy, Mystic Valley Gas Company; Roland Johnson, Brockton-Taunton Gas Company; Leo Kennedy, Lowell Gas Company; J. L. Underhill, North Attleboro Gas Company; Edward Hart, Boston Gas Company and Donald M. Ballou, City of Holyoke Gas and Electric Department. Also members of the committee from the Massachusetts Department of Public Utilities were: Chief Engineer, Stanley Ellis and Engineers Joseph Nee, Michael Masiello and Arthur W. Morrison. Working closely with Senator Fonseca and the gas industry committee was Representative George Rawson of the Massachusetts General Court.

Finally stamped "Senate 707," the bill provided the uniform rules governing all types of gasfitting within the state, including appliance standards, provided for the appointment of municipal inspectors within the various cities and towns, constituted a board of overseers within the Department of Public Utilities, recommended punitive action and penalties for violations of the Code in any gasfitting malpractice and annulled all other by-laws and ordinances on gasfitting which have heretofore governed some of the many communities in the Commonwealth. (The Code itself, covering all types of specifications, is fundamentally American Standard Z-21.30 and allied standards.)

The bill became the law of the Commonwealth on the day it was signed. It represents a needed and forward step in the safe distribution of our fuel.

It also represents positive legislation, introduced and engineered by the combined gas utilities in the interest of public safety and convenience.

ELECTRIC ▶

In old electric method, the first step is to heat water

For adding coffee, boiling water must be taken off burner

GAS ▼

It's only one step to fresh coffee with new gas coffee maker. Thermostatic controls bring water to boil and complete brewing cycle automatically

After water rises, maker must be removed again for stirring

Finally, burner must be set on "low," takes half-hour to cool

'Instant gas' makes coffee in a jiffy

Edwin I. Mulcahy, service and utilization supervisor for Oklahoma Natural Gas Company at Tulsa, shares one habit with thousands of his colleagues: He frequently sits at a lunch counter to order a cup of coffee. And, like many of his colleagues, Ed sometimes grows impatient and often annoyed when he's served coffee that is (1) too weak; (2) full of the bitterness that goes with a serving temperature that's too hot; (3) stale. And, like his colleagues in the gas business elsewhere, he never blames the waitress.

But unlike his colleagues, Mulcahy did something about the problem. He observed the many paces and time-wasting efforts the waitress had to go through to brew a pot of coffee. He figured 15 minutes of her time per batch of coffee could be saved if restaurant coffee making was made automatic.

Result: Ed Mulcahy has come up with an answer. Developing a unique, time-saving, automatic gas coffee maker, he may have performed a genuine service for his industry. What's more, he may have invented a boon to restaurant operators. His coffee maker, completely automatic, provides a foolproof method for making rich, flavorful coffee—using the accepted glass container method (the water is forced through the coffee in a container above and then is returned to the glass container after being brewed).

Ed's coffee maker does the following:

It materially cuts the time of brewing coffee with similar methods. Coffee made in this manner can be done in one-third the time.

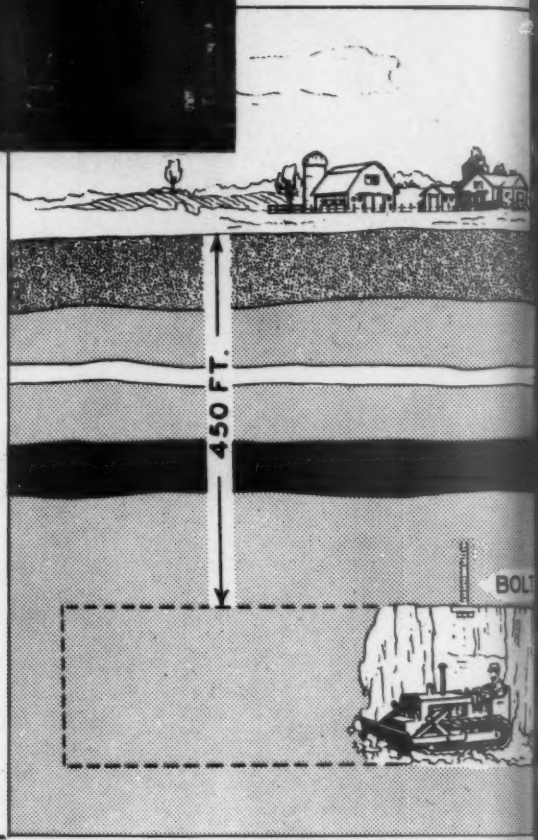
And the saving in labor is really remarkable when compared to an electric coffee maker of this type.

Heat-up time is reduced.

Switching of coffee on and off units

(Continued on page 31)

Below, artist's conception of ca
taking shape underground. Left, C
officials inspect 54-inch cutting



CG&E digs again for second huge storage cavern

The Cincinnati Gas & Electric Company is digging a huge liquid propane storage cavern 450 feet underground—the second multi-million dollar subterranean gas service project to be installed in its southwestern Ohio, northern Kentucky service area.

The new cavern is being mined beneath a steep hillside about five miles west of Covington, Ky., and a half mile south of the Ohio River, in the company's Union Light, Heat & Power Company territory. This phase of the gas expansion project will cost $1 million.

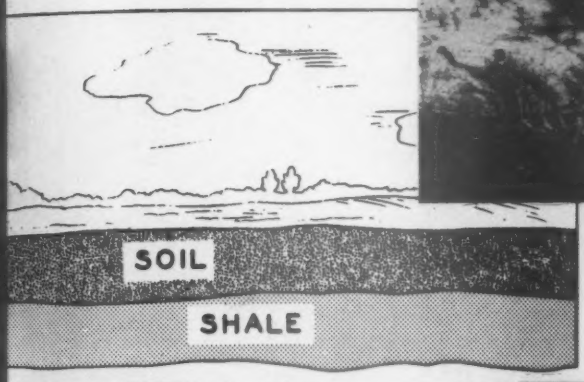
Another major phase of the job will be the construction of a $2 million gas processing plant about 2½ miles south of the cavern, near Erlanger, Ky. Connecting the cavern and plant will be an 8-inch pipeline through which the liquid propane will be transported.

The first underground storage cavern and processing plant of CG&E was put in operation in January, 1959, when temperatures skidded to zero in the Greater Cincinnati area. The facilities, completed at a cost of approximately $2 million, are located near Middletown, Ohio.

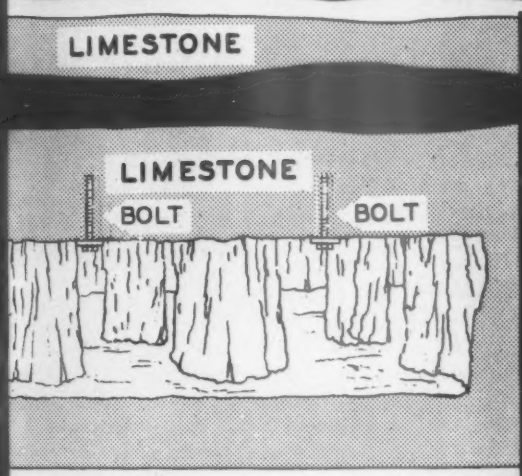
"The successful operation of this first cavern and plant was a big factor in the decision to start a second and similar operation," Milton J. Pfeiffer, CG&E vice president in charge of the gas department, reports.

The Kentucky cavern and plant, like the Middletown operation, will be used to supplement the gas supply of CG&E and ULH&P in near-zero weather. The two plants will be equipped to supplement the area's gas supply by as much as 100 million cubic feet per day, each operation producing 50 million cubic feet. The facilities also will help the company hold down costs by reducing the amount of premium priced gas it must purchase from its major supplying companies during extremely cold weather.

The rugged terrain at site is shown in this over-all photograph of storage area



Size of surface casing is shown by CG&E's M. J. Pfeiffer, left; W. J. Schreiner, in opening; H. R. Meyers



The $3 million Kentucky project will have a storage capacity of 7½ million gallons of liquid propane. The cavern is being dug on a 40-acre tract. The plant will be built on a 20-acre site.

A series of recent soil borings indicate that the Kentucky site is ideally suited for use as a natural underground storage area for the liquid propane. The area's various limestone formations lend themselves to the construction of safe and economical underground storage caverns.

The new cavern will be of multi-room design. It will measure about 180 by 330 feet with 30-foot ceilings. Tunnels connecting the rooms will be 30 by 30 feet. Supporting pillars will measure 40 by 40 feet.

No other shoring will be necessary, except expansion bolts about six feet in length which will be driven into the ceiling to help compress the various layers of limestone.

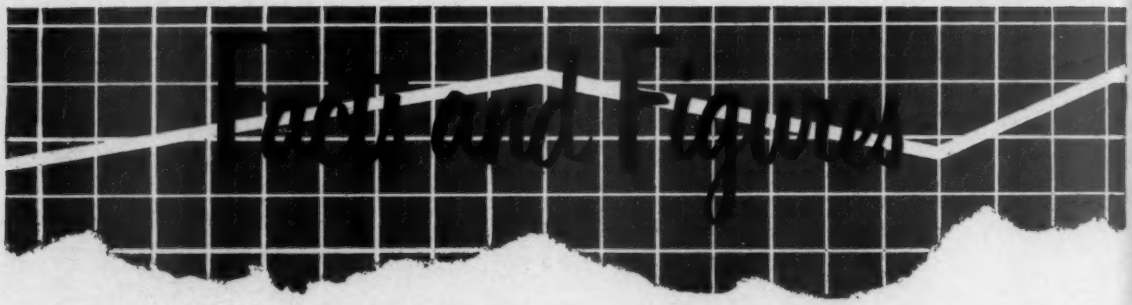
This unique method for storing and processing liquid propane gas is gaining wide acceptance throughout the nation.

The engineering and mining technique that sets the cavern projects apart from other jobs of a similar nature is that personnel and equipment—and this includes several mobile shovel loaders—are lowered, and later raised, 450 feet into the bowels of the earth through a shaft measuring 42 inches in diameter.

The shovel loaders and other large pieces of equipment must be disassembled at the shaft opening, lowered in a bucket to the floor of the cavern, reassembled and then put into operation. When the cavern mining is completed the disassembly routine must again be followed before the equipment can be raised to the top of the shaft.

But before the shaft reaches proportions to accommodate men and tools a smaller hole must be drilled to the desired 450-foot depth. This drilling op-

(Continued on page 31)



Prepared by A. G. A. Bureau of Statistics

During 1960 the gas utility and pipeline industry climbed to record levels in sales, revenues, and customers served. Sales of gas to ultimate consumers totaled 93,310 billion therms, an increase of 6.1 per cent over 1959. Revenues from sales increased sharply from $5,065 billion in 1959 to $5,676 billion in 1960 for a relative gain of 12.1 per cent. An additional 900,000 customers, of which 850,000 were new residential users, were added to gas utility lines during the year.

The Gas Appliance Manufacturers Association has reported that over-all appliance and equipment sales in 1960 declined by 11.5 per cent from 1959 levels, with built-in ranges being the only residential appliance showing an increase over the previous year. Sales of all gas ranges were 1,844,000, a decrease of 8.3 per cent; automatic gas water heaters declined by 9.9 per cent to 2,662,000 units; shipments of gas central heating equipment were 1,175,000 units, down 13.4 per cent from 1959.

GAMA also has reported that the appliance industry will probably experience a modest upturn in business during 1961. Water heater sales are expected to total 2,702,000, a gain of 1.5 per cent; sales of ranges are forecast at 1,877,000 or 1.8 per cent more than 1960; central heating equipment shipments should increase by 6.2 per cent to a level of 1,248,000 units.

The American Home Laundry Manufacturer's Association has reported that sales of gas dryers during 1960 declined by 9.2 per cent to a total of 433,000 units. Expectations for 1961, however, are that sales will increase to 472,000 for a 9.0 per cent gain.

Residential housing activity in 1961 is forecast at 1.3 million by *Business Week* magazine. This represents an increase of 50,000 homes over 1960 when residential construction was one of the industries most affected by the down-

(Continued on page 31)

SALES OF GAS AND ELECTRIC RESIDENTIAL APPLIANCES DURING NOVEMBER, 1960

(WITH PER CENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR)

	November		October		First 10 Months of 1960	
	Units	Per Cent Change	Units	Per Cent Change	Units	Per Cent Change
RANGES (including built-ins)						
Gas	141,000	−11.7	169,800	−12.7	1,554,200	− 8.3
Electric	117,500	−18.4	127,900	−10.8	1,279,100	− 8.3
WATER HEATERS						
Gas	162,900	−18.2	191,300	−30.2	2,307,700	− 9.9
Electric	52,300	+68.7	51,100	−21.5	568,900	−19.6
Gas Heating—total	93,295	−17.8	139,402	−19.2	1,010,837	−13.1
Furnaces	71,100	−18.7	101,500	−20.2	771,600	−14.3
Boilers	11,195	− 8.7	18,602	− 6.7	123,537	− 3.5
Conversion burners	11,000	−20.3	19,300	−23.7	115,700	−14.0
OIL-FIRED BURNER INSTALLATIONS	45,903	−26.0	62,378	−28.4	455,231	−13.4
DRYERS						
Gas	47,778	−18.0	57,522	−16.4	344,946	− 6.8
Electric	94,271	− 4.6	94,399	−14.8	632,779	−12.1

Sources: Gas Appliance Manufacturers Association, National Electrical Manufacturers Association, "Fueloil and Oil Heat," and American Home Laundry Manufacturer's Association.

GAS SALES TO ULTIMATE CONSUMERS BY UTILITIES AND PIPELINES DURING NOVEMBER, 1960

(MILLIONS OF THERMS)

	Month of November			Twelve Months Ended November 30		
	1960	1959	Per Cent Change	1960	1959	Per Cent Change
Natural gas	7,248.9	7,215.0	+0.5	89,661.8	84,989.2	+5.5
Manufactured and mixed gas	194.1	190.7	+1.8	2,321.2	2,361.8	−1.7
Total gas	7,443.0	7,405.7	+0.5	91,983.0	87,351.0	+5.3
Residential, commercial, and other	3,791.2	3,650.3	+3.9	45,481.3	42,054.3	+8.1
Industrial	3,651.8	3,755.4	−2.8	46,501.7	45,296.7	+2.7
November Indices (1947-1949 = 100)						
Total gas sales (A. G. A.)	274.1	272.7	+0.5			
Residential, commercial, and other (A. G. A.)	315.5	303.8	+3.9			
Industrial (A. G. A.)	241.2	248.0	−2.8			

PERTINENT BUSINESS INDICATORS, NOVEMBER, 1960

(WITH PER CENT CHANGES FROM THE CORRESPONDING PERIOD OF THE PRIOR YEAR)

	November			October		
	1960	1959	Per Cent Change	1960	1959	Per Cent Change
Industrial activity, FRB (1947-49 = 100)	159	156	+1.9	162	155	+ 4.5
Consumer prices (1947-49 = 100)	127.4	125.6	+1.4	127.3	125.5	+ 1.4
Housing starts, nonfarm (thousands)	96.3	104.3	−7.7	108.9	121.2	−10.1
New private construction expenditures ($ million)	3,398	3,492	−2.7	3,484	3,630	− 4.0

Engineering students examine details of Arkla-Servel air conditioner recently donated

Air conditioner gift aids study at Bridgeport U

By VICTOR E. MUNIEC

Director of Public Relations
University of Bridgeport
Bridgeport, Connecticut

The Bridgeport Gas Company's gift of an Arkla-Servel, Sun Valley, 500N, 3½ ton, "All-Year" air conditioner to the College of Engineering at the University of Bridgeport is an outstanding example of what one utility is doing to encourage research in the field of higher education.

Engineering students at the University of Bridgeport will use the air conditioner to study air conditioning and refrigeration, according to Dr. William P. Berggren, dean of the university's College of Engineering. Installation of the unit in the heat and power laboratory of the mechanical engineering department has been completed.

Stephen J. Michaels, industrial and commercial sales supervisor for the Bridgeport Gas Company, noted that the gas operated unit is of the absorption type designed "to provide year round resort weather in the home." The unit performs the function of cooling, dehumidifying, air cleaning and circulation in summer: and heating, air cleaning, and circulating in winter.

Since the unit was installed, the sheet metal panels have been removed and replaced with Plexiglas so that all the interior components are clearly visible to the engineering students as they conduct their studies.

This gas-fired summer-winter air conditioner is operated during engineering class sessions so that the students may observe the cooling-heating coil, over which the air to be conditioned passes. The generator, absorber and heat exchanger, together with other items required for the operator of an absorption refrigeration unit, are clearly visible in an open section.

There is a test table with a draft gauge to measure the quantity of conditioned air passing through the unit, and a potentiometer which measures temperatures at selected points throughout the system. These and other instruments make possible the calculation of operating performance under varying conditions such as load, air flow, temperatures, efficiency, gas consumption, and degree of cooling.

Also studied by the engineering students are the rates of cooling water flow through the unit itself and through the mechanical induced draft type cooling tower.

Professor George M. Nixon, head of the mechanical engineering department at UB observed that the installation of the air conditioning unit is unique in the Greater Bridgeport area, in that it is serving on an engineering rather than a trade level. The installation, he noted will have three primary functions:

1. To permit engineering students to conduct air conditioning and refrigeration experiments on a suitable plane.
2. To make possible research and development in this field.
3. To make available to industry the facilities and staff members of the University of Bridgeport and to conduct investigations in its behalf.

A research program to investigate utilization of the gas-fired absorption air conditioner as a heat pump also is planned, Professor Nixon stated.

The Department of Mechanical Engineering at the University of Bridgeport is currently engaged in establishing a laboratory to specialize in air conditioning and refrigeration.

Cooperation with the University of Bridgeport is a major objective of the Bridgeport Gas Company, he said. Engineering enrollment at UB includes 200 full-time students and more than 500 part-time students. Total enrollment at the University of Bridgeport exceeds 5,600 students in combined full-time day and part-time evening classes.

Mrs. Michigan samples offerings of fire department dough-rollers at cook-off held by Michigan Consolidated

Firemen chefs, blue flames team up

Michigan Consolidated Gas Company, recognizing that firemen have a reputation as outstanding cooks, and that all 55 of the fire houses in Detroit use gas for cooking, recently decided to hold a contest to determine the best fire house cook.

The Fire Commission was contacted and enthusiastically gave permission.

An application blank was sent to every fire station to be filled out by the No. 1 chef. From information thus obtained, 12 finalists were selected.

Finals were held in the gas company's Hall of Flame Auditorium, where six Gold Star gas ranges were set up for two cooking sessions of two hours each.

Judges for the contest, Kay Kopera, Dorothy Howe, Cecil Fleming and Mark Beltaire, expressed amazement at the quality and variety of the meals prepared. It was obvious that the firemen have well-balanced and nutritious meals regularly.

The firemen's cook-off was attended by all top Fire Department officials, and also by radio, television and press representatives.

Each participant received, for his efforts, a trophy, a cutlery set and a gas-monogrammed apron. The winner received a Gold Star gas range.

The promotion received extensive local coverage in two Detroit dailies and on three television stations. A 15-minute interview with the winner was broadcast on a local cooking and women's program.

Follow-up articles have since been published in the women's news sections of the newspapers, covering recipes and techniques used by the firemen.

Contest judges critically eye—and taste—the fire house fare

Enthusiasm of contestants promises happy helpings for colleagues

Work with Detroit officials in developing new gas incinerator standards provides model of joint action

Gas helps city clean up its air

By MORTON STERLING

Chief
Bureau of Air Pollution Control
Detroit, Mich.

The use of gas in space heating, service water heating, and power generation is looked upon quite favorably by air pollution control officials because gas generally can be burned in a smokeless manner. However, this seeming attractiveness in these applications should not permit the gas industry to be unconcerned about air pollution control. Gas is used in many other applications where severe local, or area-wide air pollution problems could result; such as in heating of varnish kettles, heat treating or annealing of metals, secondary smelting of non-ferrous metals, kiln drying operations, and the incineration of waste materials.

The Detroit Bureau of Air Pollution Control is responsible for carrying forth a comprehensive preventive and corrective program for improving and/or maintaining the purity of the atmosphere. Control efforts are not restricted to industrial activity only, for it is recognized that the general public greatly contributes to the over-all air pollution problem.

It is estimated that public activities account for up to 40 per cent of the pollution in the Detroit area by the operation of home heating equipment, vehicle operations, and refuse burning equipment.

In view of this, the improper burning of fuel in the home receives as much attention from the Bureau as the improper burning of fuel in commercial activities. The Bureau restricts the sale of coals to be used in hand-fired coal boilers to meet certain stipulated standards of performance, specified in the air pollution control ordinance. The operation of private and commercial motor vehicles has come under careful scrutiny during the past three years, and vehicle smoke performance must conform to strict standards which were jointly developed by the Bureau and the Automobile Manufacturers Association. The domestic incinerator, therefore, rightfully deserved attention.

Smokeless incinerator needed

Our interest in controlling emissions from the operation of domestic incinerators was a natural outgrowth of our all-inclusive control activities, and was highlighted by the concurrent interplay of two major factors. One was the desire of the City to encourage residents to dispose of their household refuse on their premises by the use of garbage grinders and/or incinerators due to the limited available municipal waste disposal facilities. The other was the increasing dissatisfaction expressed by the average citizen on the general performance of the domestic incinerator from an air pollution nuisance standpoint. It therefore became necessary that a publicly acceptable incinerator be made available if the "on-the-site" disposal program was to be successful.

To insure that such devices were developed, a supplementary air pollution control ordinance was passed in 1956, which became effective in early 1957. This ordinance limited the sale of domestic incinerators to those models which passed Bureau performance requirements. The problem now resolved itself into developing standards of performance which would improve the operational characteristics of the domestic incinerator and, at the same time, alleviate the local nuisance problem generally caused by their operation.

It became apparent to the gas industry that this was an opportune time to assist the local air pollution control agency to develop reasonable regulations regarding the operation of a gas-operated appliance. Mainly through the efforts of the local gas utility and a special sub-committee of the Gas Appliance Manufacturers Association, a series of meetings was held with Bureau personnel to discuss the general facets of the air pollution problem caused by the operation of domestic incinerators. It was quite obvious in the initial discussions, that there was a wide diversity of opinion between the gas industry and air pollution control representatives on what should constitute minimally acceptable performance requirements. However, it also became obvious that if any progress were to be made on the development of such standards, concessions would have to be made by both parties. As a result, the regulations which were finally adopted were a compromise between what the City believed they wanted and what the gas industry believed they could develop practically. The requirements

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were sufficiently restrictive to preclude the possibility of the then marketed incinerator from passing the new performance requirements. However, this step immediately placed the City in the possibly conflicting position of promoting "on-site" disposal without an available approved incinerator. It therefore again became necessary to compromise to meet mutually desirable goals, and various restrictive provisions of the regulations were staggered on a pre-selected time schedule to permit the manufacturers ample time to develop and test new models without wholly restricting their sale. This approach permitted attainment of our requirements without creating undue hardship.

The foregoing approach to this problem may appear to be too "pat" to many. However, upon reflection, it must be conceded that many problems which at first appear to be unsurmountable are actually relatively simple to solve. The key to success is the willingness to discuss openly the differences of opinion and the matters of mutual concern. I understand there is apprehension among some that air pollution control officials are sometimes not open to discussion. As an active member of this group, I do not believe this to be the general case. It is acknowledged that in some instances greater initiative will be required on your part to achieve desired goals. In the final analysis, the air pollution control official must recognize that he has an equal responsibility to listen and weigh carefully representations from industry, just as he does those from the public.

The old model incinerators fall into two major categories—the so-called "low input" or dehydrating type and the "high input" class. The term "low input" is in a sense a misnomer. These units actually consume more gas per unit waste charge than the higher-rated units, since the burner remains in constant operation at its rated input.

A survey based on citizens' complaints in Detroit over a period of several years indicated that about 75 per cent of the nuisance complaints against smoke and odor were directly attributable to the use of the dehydrating or "low input" incinerators. The relatively poor performance of these units was due mainly to the smoldering condition in the waste bed. The low thermal input added just enough heat into the combustion chamber to maintain a low temperature combustion process. In addition, the gas mixture temperature was further depressed because of the continuous absorption of heat by the moisture in the waste as it was transformed from liquid to gas. The old high input unit, with its burner near the grates and simple up-draft combustion chamber design, often caused a more dense smoke emission for a shorter time. For periods of a half hour or more after being charged with a heavy garbage load, the submerged burner often caused voluminous clouds of malodorous smoke to be distilled out of the moist mass above it.

The new type incinerators are basically similar in design to one another. They follow the established pattern of commercial incinerators where the primary combustion products flow into a secondary chamber where they are passed through an enveloping flame. In most cases, the manufacturers have achieved this dual chamber feature with little or no increase in external size of the incinerator, and with no significant decrease in holding capacity. The burner is normally designed to discharge approximately one third of its Btu output into the primary chamber, and two thirds directly into the secondary chamber. A single venturi and control system feeds gas to the dual-purpose burner.

The down-draft design of the combustion chamber with its attendant low gas velocities in the secondary chamber is claimed by many manufacturers to produce a settling action which traps out the greatest percentage of the larger particles of fly ash before the products of combustion are discharged to the atmosphere. Our test results and observations substantiate this claim, and the City of Detroit has conditionally approved installation of the new type incinerators without requiring the conventional spark arrester.

Due to space and financial limitations available to the Bureau, the local public utility made available to us sufficient space and equipment to carry forth our evaluation program at their Training Center. Although the actual tests were accomplished by municipal employees, the gas company did provide us with the services of one of their employees for assistance in setting up and maintaining test equipment. This is yet another example of the gas industry-air pollution control cooperative approach to solution of mutual problems.

The gases are initially discharged into a dilution chamber of approximately 480 cu. ft. The front of this room is fitted with two variable area openings to admit outside dilution air in the ratio of 15 parts by volume of fresh air to one part of combustion gas. This ratio was selected because it was felt that it would simulate field conditions where the products of combustion would travel approximately 15 feet before entering a possibly adjacent open window. It was calculated that a gas stream moving this distance would entrain sufficient surrounding air to dilute itself to 15 to 1. The room is evacuated by a draft-inducing fan. The diluted gases are then discharged horizontally to the atmosphere at a point about 6 feet above ground level. Appropriate dampers are provided in the fan duct system to establish the required test draft of .01 inch water column at the incinerator flue collar.

Sensitive instruments of the continuous recording type are used in the incinerator test room to measure draft and flue gas temperatures. Static draft is measured in the 8″ x 10″ chimney stack one foot above the point of entry of the incinerator smoke pipe. The flue gas temperature is taken at the point where the smoke pipe enters the chimney.

The products of combustion from the incinerator travel through a flue rising through the ceiling of the test room. This flue extends sufficiently high to provide adequate access for stack sampling instruments, then makes a U-bend and discharges the combustion gases into the dilution chamber. Near the discharge end of the flue pipe inside the dilution chamber a viewing glass has been inserted to observe the smoke density characteristics of the flue gases.

A platform on the top of the test room ceiling serves as a comfortable site for the stack sampling crew to obtain all the necessary data for determination of the particulate loading of the flue gases. Instruments used in the flue gas sampling are a velometer, pyrometer, suction pump with filter, and an Orsat apparatus.

The initial test performed on each incinerator is the maximum exit gas temperature test. It is conducted to determine peak flue gas temperatures obtained under accelerated burning and extreme draft conditions. Successive charges of shredded paper are burned until a stabilized condition is obtained. As in all other tests, proper measurements are

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TV kitchen is showcase for gas

Fran Johnson, hostess of "Today with Fran" on KHAS-TV, poses in the new all-gas kitchen setting for her show

Kansas-Nebraska's Frank Soldan points out range features to L. E. Nelson, left, Fran Johnson, and S. D. Whiteman

The Kansas-Nebraska Natural Gas Company puts a modern all-gas kitchen into thousands of homes in the Hastings, Nebraska area every day.

It's done via television, and the gas kitchen is a new one installed at station KHAS-TV in Hastings last November.

The kitchen and its appliances are primarily used for a 30-minute daily homemakers' show, "Today with Fran," conducted by Fran Johnson. According to Kansas-Nebraska officers, the show is a very popular one, with a large and loyal audience.

Installed through the combined efforts of Kansas-Nebraska and suppliers, through an agreement with KHAS-TV, the kitchen, the company feels, provides an excellent permanent showplace for the gas appliances included, as well as an added sales tool for the gas industry and the utility. The station and the program hostess, Fran Johnson, agree that the kitchen provides an attractive background for the show.

For the debut of the kitchen on the air in November, the daily program was devoted to a guest show in which Kansas-Nebraska people participated. On hand, along with the hostess, Fran Johnson, were S. D. Whiteman, K-N president; L. E. Nelson, vice president; Frank Soldan, sales manager; Ted Kennedy, director of public relations; and Laura Lindsay, home service representative.

A full-page advertisement in the *Hastings Daily Tribune* announced the new kitchen and invited viewers to tune in.

Jointly sponsoring the ad were K-N; the General Appliance Company of Omaha, distributor; the George D. Roper Corporation, manufacturer; and the television station.

Kansas-Nebraska did the actual installation and owns the kitchen.

Cabinets, sink-top and dishwasher are by Youngstown; the "Charm" cabinet-type range is by Roper; the washer-dryer combination is a Philco Bendix Duo-Matic, and the refrigerator is an RCA Whirlpool.

Ted Kennedy, K-N's PR director, says, "There are no doubt television stations in most of the areas served by A. G. A.'s member companies. This may be a suggestion to other natural gas companies to add a valuable sales tool to their selling team. The kitchen has already received a great amount of favorable comment from the viewing public."

Accountants assemble to trade experience, know-how on care and feeding of electronic 'brains'

Seminar surveys jobs for machines

All previous attendance records were broken at the eighth annual Public Utilities Electronics Seminar at the Claridge Hotel in Atlantic City on November 28 through 30, 1960. Two hundred eighty-two registrants participated in the sessions, whose theme was "Experiences Communicated Lead to Better Performance for Profits." Returning to the east coast after pioneering to the west coast the previous year, the seminar was highlighted by discussions of plans and experiences with the so-called "second generation" computers.

High on the list of valuable experiences communicated was the visit to the Atlantic City Electric Company's Accounting and Data Processing Center in a semi-rural setting housing the company's RCA 501 computer system and Farrington optical scanner.

Sponsored jointly by the A. G. A. Accounting Section and the Edison Electric Institute Accounting Division, the seminar was planned by the A. G. A.-EEI Electronic Accounting Machine Developments Committee, under the guidance of co-chairmen John P. Bromley, Consumers Power Co. (A. G. A.), and E. Devere Cowles, Detroit Edison Co. (EEI).

Like the seminar itself, the two welcoming addresses were a study in contrasts. R. W. Hogg, treasurer and assistant secretary, Atlantic City Electric Co., pointed out the more than 30 years' experience of his company in mechanized data processing, as he extended an invitation to the group to visit the new Data Processing Center. W. A. Gemmel, vice president and treasurer, South Jersey Gas Co., welcomed the group and pointed out that his company

General Session, Nov. 28. Seated: W. A. Pearce, W. A. Gemmel, R. W. Hogg. Standing: E. D. Cowles, J. W. Lawrence, W. T. Hamilton, S. E. Wertheim

General Session, Nov. 30. From left: J. F. Saunders, H. E. Mueller, C. R. Gibbons, E. D. Cowles, J. P. Bromley, R. H. Johnson

C. D. Otcasek, G. F. Drumm, and C. Carte discussed "What's New in Computer Hardware" at seminar

had only three years of experience in mechanized data processing.

These comments set the stage for the conferences to follow, for both the experienced and the inexperienced had valuable information to exchange. This point was emphasized by W. T. Hamilton, chairman, EEI Accounting Division, as he opened the meeting. Mr. Hamilton briefly reviewed the progress in electronic data processing during the past decade. He stressed the importance of retaining a dynamic approach to the subject, as electronic data processing is not yet approaching a static state.

Three company representatives presented their stories with respect to their experiences in data processing.

S. E. Wertheim, Cleveland Electric Illuminating Co., described the two years of planning in that company for an IBM 7070 installation to bill 560,000 customers. The company also announced the placing of an order for a Farrington optical scanner to permit automatic reentry of cash payments. Establishment of a cost and time schedule, including the schedule of release of personnel from the manual system, was a fundamental part of the planning.

In addition to the specific training of personnel in the data processing area, approximately 200 people were trained in the last four years in a general appreciation course on data processing. Engineers also received training in Fortran language. The personnel to be affected by the computer were trained in night sessions in August through October of 1960. The staff in data processing was small, never more than nine programmers being active at any one time, and the backgrounds of the people were highly varied.

In connection with the design of the Revenue System which would be handled by the IBM 7070, the reorganization of the Customers Accounting Activity and the use of an ACME Rotary file were decided upon to provide better service to customers in handling activity with respect to their accounts in the areas of service, collection, and accounting.

Conversion from the present key driven and addressograph system will be accomplished through creation of cards from several documents. It was pointed out that the key punching was to be handled on a contract basis by Statistical Tabulating Company. The conversion schedule itself included plans for increasing from a rate of conversion of about 1,000 accounts per day at the beginning to approximately 4,000 accounts per day in the last four months of the ten-month conversion period.

A brief description was made of the customer records to be produced monthly to serve as the basis for handling all types of customers' inquiries with the exception of current status of accounts, which is to be handled by an exception accounts receivable register. The one-sided postcard bill to be used was also illustrated, and it was pointed out that file maintenance will be run every day on the complete set of the company's accounts. Collection action will also be handled by the computer.

The company's conversion started on schedule early in November and is expected to be completed by October, 1962. The IBM 720 Printer being used initially will be replaced ultimately by two IBM 1401 systems.

It was pointed out that costs and schedule goals had been met and that problems still remained in the final stages of testing and would be experienced through the initial stages of conversion.

J. W. Lawrence, Duke Power Co., described the developments of electronic data processing in that company in the last four years, following the appointment of a Forms and Procedure Study

R. E. Hanington, F. F. Beisel, G. A. Ford, formed panel on "Satellite System Concepts"

Fielding questions in "What's Your Problem?" session were E. D. Cowles, R. E. Harbaugh, J. P. Bromley, J. A. Comerford

R. E. Ellifritz, W. C. DeNeane, R. W. VanWuyckhuyse, and R. C. Wilkinson spoke on system concepts for medium-sized computers

Committee. The committee prepared a survey of what was being done and how it was being done in the entire organization. A survey guide was used specifying 16 functions, each of which was broken into subdivisions, as a means of gathering data in order to arrive at a recommendation.

As a result of studies of available equipment, a recommendation was made to obtain an IBM 650 on a rental basis. As the planning proceeded and expanded operations were anticipated, a second look was taken at the equipment on order, and a 705 tape system was scheduled in place of the 650. Engineering personnel were trained and began planning their applications for the computer.

It was determined that staffing for the total job should be done with Duke personnel. One hundred employees were screened and tested, and the staff was selected from this group.

IBM provided two experienced computer personnel and an EAM man to assist in the planning. The result was a division of responsibilities and an estimate of months to complete each responsibility.

The study committee at this point developed into the Accounting and Methods and Procedures Department, responsible for defining the problems and directing the program of conversion. It was decided that a complete conversion to electronic data processing was desirable, with the result that meter orders were to be placed on punched cards, mark-sense reading was to be used, and a punched card bill capable of mechanical cash posting was to be rendered.

By June, 1958, the runs had been defined and were assigned to programmers for block diagramming and coding. In October, 1958, the order was changed from an IBM 705 to the newly announced IBM 7070. Revised plans were made and progress reviewed on a weekly basis to insure that the schedules would be met. Checkpoints were built into programs to assure effective restart procedures, and utility routines were used in the programming. Testing began in January, 1960, and increased in pace in the early part of the year.

In order to instruct field offices in the new procedures, a customer accounting procedure manual was prepared and circulated. It was used as the subject of training sessions.

Conversion began in September, 1960, with approximately 45,000 accounts being converted to the computer. The computer was delivered on August 22 and operations began on September 12 with parallel testing on about 5,000 accounts. During October, 45,000 accounts were billed on the computer and another 45,000 were converted. Following this, a month's delay was built into the schedule, and the follow-up on minor bugs was conducted.

The long planning and extensive training plus the attention to schedules resulted in a good start on the major undertaking of conversion to electronic data processing.

W. A. Pearce, New Jersey Natural Gas Co., described the experience of his company of approximately 140,000 customers in converting to electronic data processing.

The company was formed in 1952 with the merger of the County Gas Companies with the gas properties of the Jersey Central Power and Light Company. The two billing systems were consolidated into one, and the problems of integrating a system using key driven and addressograph equipment with one using IBM punched equipment and addressograph equipment were solved. Conversion was made to a Remington Rand punched card system for billing and addressing, and by September, 1952, the system was operational.

Work under the unit bookkeeping plan for cash posting, cycle balancing, and meter book maintenance was performed on a manual basis.

By 1956, a Univac 60 had been delivered and the billing routines transferred to it. At this point, the department's name was changed from the Billing Section to the Tabulating Section with the addition of functions other than customer accounting.

With the growth of 50 per cent in customers from 1952 to 1960, the company studied further automation of its customer accounting functions and decided that a Univac Solid State system could do the job. The tabulating department then became the Data Processing Section, with the responsibility to recommend policy changes to improve present methods. One of these resulted in a change to cycle billing of finaled accounts in April, 1960.

The new system for billing in Customers Accounting was approved early in 1959, and the design of forms and programming was undertaken. Detailed coding, pseudo coding, and flowmatic were the three languages used in the programming for the computer, which was delivered in November, 1959. By May, 1960, all existing functions had been transferred to the solid state computer. Complete automation of the four locations at which accounts are handled is scheduled by the end of March, 1961. The transfer began in October with 5,000 accounts, and succeeding groups will be transferred at the rate of 30,000 accounts each month.

The solid state system installed has a 450 card per minute reader, 150 per minute read-punch unit, 600 line per minute printer, and 5,000 word magnetic drum memory.

One-sided postcard bills and a stub ledger record with complete billing and accounts receivable information are prepared in the computer. In addition, statistics are developed and delinquent accounts classified so that as much information as is necessary is developed for the district offices.

Rapid change and development seem to be the history of this relatively small, new utility.

The balance of the seminar, other than the closing session, consisted of a number of panel sessions. The highlights of these panel sessions follow.

Character recognition

Members of the panel on Character Recognition included: H. Jacobson, Commonwealth Edison Co.; H. S. Thurston, Consumers Power Co.; R. M. Bozelleca, Atlantic City Electric Co.; and moderator P. W. Boyer, Commonwealth Edison Co. Mr. Boyer began the panel discussion by reviewing the need for character recognition to overcome the complex methods currently used to re-enter mechanically prepared documents. Mr. Jacobson covered Commonwealth's approach to character recognition equipment. He indicated that an order had been placed for a Farrington Scanner to be delivered in April, 1961. This equipment will be designed to read two lines of alphanumeric characters on a 2½" width stub. The effective rate of reading will be 300 stubs a minute with output directly to magnetic tape.

H. S. Thurston covered the approach to character sensing followed by the staff at Consumers Power Co. Recognizing the volume of turn-around documents, some 70,000 meter reading cards and 56,000 bill stubs daily, the use of char-

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Brides find kitchen far from prosaic, especially this one, designed by BRIDE & HOME magazine. Decorated with travel posters, it also has glamor of gas kitchen-laundry appliances

Kitchen has romance for brides

The editors of *Bride & Home* magazine recently proved that the room most interesting to the romantic bride is the utilitarian kitchen—with gas appliances. As part of the Winter, 1960, issue, which featured the "Bride's House of 1960," the editors sponsored a contest to determine which of eight rooms in the home was their readers' favorite. The kitchen was most often first on contestants' lists.

This was surprising to the staff of the magazine, because 85 per cent of its readers start married life in an apartment. Brides in this group, between the ages of 18 and 25, also work after marriage and become part of family units with spendable incomes of approximately $7,500 a year. While this is an enviable amount that few families will again enjoy until their children are adults, there is still a lot of close kitchen planning to be done by these new homemakers. This is why *Bride & Home* chose penny-saving decorating ideas (travel posters, for instance) and gas appliances for its special bride's kitchen.

The Hardwick gas range featured in the kitchen costs only $95.50, plus de luxe oven incorporating automatic clock and rotisserie for $190.

A space- and time-saving addition was the Philco Duomatic gas washer-dryer that automatically washes and dries an average laundry load in less than one hour.

The editors completed the bride's kitchen with a modern, economical RCA Whirlpool gas refrigerator.

PAR Committee holds its first meeting for 1961

First meeting of the PAR Committee in 1961 was held at the Plaza Hotel, New York City, January 19. R. A. Puryear, current chairman, presided. The PAR Committee is responsible for directing promotion, advertising, research and public information activities of the Association

Accounting

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acter sensing at Consumers Power appeared to be particularly advantageous. Further investigation of the Farrington Scanner led to an order for such equipment to be delivered in January of 1962. The laminated bill stub will be 2.3" wide and contain some 31 numeric characters to be scanned on two lines. Output from the scanner will be through an IBM 523 summary punch to prepare three stubs to one card.

R. M. Borzelleca spoke of the actual results of Atlantic City Electric's scanner. He indicated that a reject rate of less than 2 per cent is now being experienced. Atlantic City Electric has been using its optical scanner since April, 1960, and is very well pleased with its operation. The scanner reads a single line on the laminated bill stub of up to 19 numeric characters. An effective reading rate of 130 stubs per minute is obtained with the output directly to paper tape.

Many of the questions asked of the panelists had to do with the fact that each intended to use the same scanner, but with different outputs—paper tape, packed punched cards, and magnetic tape. The main reasons given for the differences were due to differences in computer equipment and economics. Some interest was indicated in the various methods for handling non-readable documents that were put forth by the panelists.

Data transmission

J. W. Allen of Natural Gas Company Pipeline of America, G. H. Davis of the West Penn Power Co., C. R. Gibbons of the Pennsylvania Electric Co., J. O. Wilcoxon of the Columbia Gas System, and the moderator, D. W. Keller of Columbia Gas System, presented the panel on Data Transmission. One company used this mode for some time to eliminate a delay in receipt of its data at the central computer, but has recently returned to the original method since transportation services improved. Two companies did not have a system installed, but were actively engaged in exploring the possibilities; one of these, in a rather compact area, was interested in a total system, whereas the other company extending over a considerable area was primarily interested in transmission of only customers' accounting data, and even that was restricted to input from certain troublesome sections of the territory. The fourth company has a system installed and presently in use. The system covers about 1,100 miles and is used about two hours each day on a shared basis. This application was unique to a pipeline company and involved only the transmission of critical data required to compute daily deliveries at several orifice meters. The total volume transmitted during the allocated period was reported to approximate 500 cards daily.

The two companies with actual experience in the field were agreed that accuracy of data transmitted was no problem. All transmission errors were detected, and the frequency of their occurrence did not present any serious problems. They also reported very little time when facilities were not available due to weather conditions.

All companies were agreed on the advisability of investigating the possibilities of this media for transmitting even limited quantities if any problem exists in transportation. Costs were admittedly high for any system at this time, but it was felt that the tremendous potential should suggest further study to most utilities.

Peripheral equipment

The panel on What's New in Peripheral Equipment, moderated by R. Van Wuyckhuyse of Rochester Gas and Electric Corp., reviewed some of the new

techniques and use of off-line equipment. Each member of the panel covered a specific area.

Emmett White, Public Service Electric and Gas Co., reported on the various automatic meter reading devices that the A. G. A.-EEI Automatic Meter Reading Subcommittee has under consideration. Mr. White's subject covered transmission of meter reading by radio, power lines, special telephone-type lines, and other types of communication. He also reviewed the various direct reading devices now available, which included a VIP Card Punch, a Farrington Meter Reading Imprinter, and a United Gas Corporation Metercorder. The above meter reading devices were on display.

Mr. VanWuyckhuyse reported on various techniques to prepare data for input into data processing systems. These techniques included preparation of punched paper tapes on adding machines and the Flexowriter, also document writing systems, tape to tape converters, as well as paper tape to magnetic tape converters. Optical scanners manufactured by Farrington, IBM, Addressograph, and Remington-Rand were briefly described.

Discussion on new types of input equipment included a general description of two new electronic data processing systems, namely the Bendix G20 Electronic Data Processing System and the Magnacard Data Processing System.

S. A. Warwick, of Public Service Electric and Gas Co., presented a paper on off-line output devices. He spoke on proper utilization of equipment and various means of increasing output, such as revising forms to permit printing of two forms simultaneously, thereby using the maximum number of printing positions. He also stressed the importance of scheduling flow of work and the combining of operations to reduce the number of repetitive passes.

T. W. Koenig, of Jersey Central Power and Light Co., discussed the various types of continuous forms, form separators, and form bursters now on the market. He also covered the different types of laminated bill stock and snap-out forms that are pre-numbered, pre-punched, and/or pre-printed with magnetic ink, also folded-over glued forms and continuous tab cards. Mr. Koenig also described the tabulating card die cutter and the automatic vertical line finder for typewriters.

G. A. Ford of Connecticut Light and Power, R. E. Hanington of Philadelphia Electric Co., and the moderator, F. F. Beisel of Pennsylvania Power and Light Co., presented a panel on Satellite System Concepts.

It was interesting to note that Messrs. Ford and Beisel, who are preparing for installation of the 7070-1401 system, plan to use the 1401 tape data processing systems for all input-output operations on an off-line basis and certain small processing jobs that can be performed with the memory size of the 1401's on order. The more expensive and powerful 7070 system will be used for the main runs which require the speed and additional memory size incorporated in the main frame. In summary, their approach is to use the relatively inexpensive small computer system wherever possible and retain the 7070 computer for the more important and complex operations.

Mr. Hanington stated that the present plans of the Philadelphia Electric Company's approach to data processing do not include a Honeywell 400, and any computer jobs requiring use of memory will be processed on the main frame of the Honeywell 800. It was stated, however, that under conditions such as machine loading beyond prime shift, physical location considerations, and computer priority scheduling problems, their present concepts might be changed to include a Honeywell 400.

A period of discussion followed, during which many facets of the subjects previously mentioned were explored in detail. Decentralized or functional use of future data processing systems was touched upon briefly. This possibility has become a factor for consideration because of the availability and cost of small computers and, in addition, because of improvements in the art and the speed of data transmission facilities. However, no company represented at the panel session had a formal program in this area underway at this time.

The panel on System Concepts for Medium Sized Second Generation Computers presented several approaches to system design for the customer accounting application.

Moderator R. E. Ellifritz, Columbus & Southern Ohio Electric Co., discussed an approach using an IBM 1401 tape system. This approach illustrated various techniques, such as:

Off-line versus on-line sorting of data.

The use of punched cards as a control media.

A method for punching remittance stubs for customers' bills.

Preparation of a unit record billing register and various types of collection notices.

W. C. DeNeane, of the Washington Gas Light Co., discussed some of the significant differences in the approach to system design utilizing an IBM 1401 card system. His discussion covered:

A method for making a hi-lo check and extension of billing amounts.

Application of cash payments and preparation of a detailed list, showing the complete status of the account before and after the application of the payment, together with arrears cards for the next billing.

Preparation of a billing register and, at the same time, punching the remittance portion of the customer's bill.

R. C. Wilkinson, West Penn Power Co., discussed the advantages inherent in consolidating data from many different reference files into a single magnetic tape record. Advantages cited were:

Eliminating the duplication of a high percentage of the data that must be initially recorded and updated.

Significant reduction in the data required on change notices.

Ability to process records at electronic speeds.

Reduction in storage requirements.

He also pointed out that by pre-estimating meter readings, the meter reader could be provided with minimum and maximum dial settings, confirming remarks can be entered on the reading media at that time, thus eliminating the need for special investigation.

R. Van Wuyckhuyse, Rochester Gas & Electric Corp., described the major features of the RCA 301 Electronic Data Processing System. Salient points were:

Programs for the RCA 301 written in COBOL.

The advantages of variable word length and message length.

A description of the RCA 301 Disk Record File.

The shifting of magnetic tape clusters and printers from one main frame to another, permitting greater flexibility in operations and the printing of bills and meter reading cards four-up.

Input-output data codes

J. A. Clinton of Niagara Mohawk Power Corp., E. J. Knight of Baltimore Gas & Electric Co., and the moderator, C. Marchyshyn of West Penn Power Co., presented the panel on Design and

Utilization of Input-Output Data Codes. It was agreed that proper coding for the use of alpha or numeric characters to depict descriptions constitute the foundation of coding, which contributes so much to economy and convenience and expedites the recording and handling of factors in modern business. Code construction is a complicated task whose development requires a full awareness of all factors in a particular problem. It should be preceded by complete appraisal of the job to be done and consideration of all possible methods of accomplishment.

Mr. Clinton stated that proper coding is vital to the successful operation of an accounting machine application; therefore, it is important to develop the right code for the right situation. The construction of an adequate coding system should include the following:

1. Flexibility—The code should provide for additional entries in sequence.
2. Scope—The code should be designed to allow expansion to include additional categories.
3. Operation—The code should be adequate for all required accounting machine segregations.
4. Convenience—The code should be easy to assign.
5. Construction—The code should include the least possible number of digits consistent with the problem to reduce punching and sorting effort to a minimum.
6. Identification—The code should, if possible, facilitate visual identification.

Examples of coding techniques in designing service orders and adjustments were submitted for consideration.

Mr. Knight stressed the application of coding techniques, including sufficient usage by the central billing unit and provisions required to interpret the information. On this basis, in certain instances, examples utilizing mnemonic codes were not as desirable as a single prominent character. Illustrations of what can be done, as submitted by Mr. Knight, included permanent account numbering system, service order design, adjustments, cash stubs, etc.

Control techniques

The panel on Control Techniques consisted of the following: W. Symons, Atlantic City Electric Co.; M. J. O'Connor, Consolidated Edison Co.; A. L. Conrad, Detroit Edison Co.; W. C. Marble, Philadelphia Electric Co.; and the moderator, Mark Salvino, Peoples Gas Light and Coke Co. The moderator opened by citing some of the significant changes in controls that he has noted over the past five to six years. He further pointed out major breakthroughs that he anticipated would come about during the next few years. Among these changes were the omission of internal tape labels from magnetic tape files and the absence of control records from main file records. Following the opening remarks, each of the panel members reviewed his experience with controls.

One of the panel members pointed out the difficulty of attempting to maintain all controls within the computer system. In order to overcome these problems, his company reverted to a manual control system similar to the one in effect before the use of the computer. In one system, presently in operation, computer control totals are prepared only for comparison to manually developed controls.

At the Detroit Edison Co., the various users of computer equipment specify the necessary controls for their various applications. The belief is that the computer user should retain the responsibility for the data processed as well as its control. Acknowledgment of data received by the computer system was stressed by one panel member as an important control feature, as in the case of acknowledging wage increases by returning computer created memos reflecting the changes.

A number of questions developed during the panel discussion, including the preferable size of balance units; i.e., the number of accounts per control record. A question was also raised as to when cash input should be balanced, before or after entering the computer system. In answer to the reason for systems being out of balance, magnetic tape errors and correction to the file were cited as the major causes.

Random access

The moderator of the panel on Random Access, J. A. Comerford of Consolidated Edison Co., discussed the need in the utility industry for faster and more economical access to records. He presented a film showing the "Sabre" system (planned by American Airlines) as a model of a future information station in the utility industry.

Emmett T. White, Public Service Electric and Gas Company, summarized that portion pertaining to random access which was a part of the research project conducted by Harvard University for the electric and gas utilities. Mr. White's presentation covered the basic requirements defined by the Harvard Research Group for random access storage equipment, also the advantages of random access files, as well as equipment concepts considered for the storage of mass information files.

G. R. Harbison, Philadelphia Gas Works, reviewed developments in the field of magnetic disk storage. Slides were used to illustrate the several computer systems that can be used with disk memory.

E. T. Larkin, Commonwealth Edison Co., described how his company is using the IBM 305 Ramac. Commonwealth Edison has 3,900 accounts, representing 12,000 meters, which are now stored in the 305 Ramac. Included in this group are all of the largest accounts plus those billed under extremely complex rates. All updating of accounts receivable and master file, as well as bill preparation, calculation, and printing are accomplished on the Ramac. These operations were previously handled by a separate group of the Revenue Accounting Department.

A free-for-all open forum session dealt with questions raised by delegates from the floor or in writing.

C. R. Gibbons, Pennsylvania Electric Co., J. F. Saunders, Hartford Electric Light Co., and H. E. Mueller, Philadelphia Electric Co., participated in the closing general session of the seminar by reviewing their plans for computer usage. Each of the speakers indicated the process followed in the selection of their respective computers. All three of the companies are actively planning for their computer installations. Philadelphia Electric has ordered a Honeywell 800, Hartford Electric has ordered a General Electric 225, and Pennsylvania Electric has ordered two IBM 1401's. Various problems that were faced and the methods of resolving each of the problems were mentioned. The talks were most informative, particularly for those representing companies embarking into electronic data processing.

The closing statements were made by R. H. Johnson, chairman of the A. G. A. Accounting Section. Mr. Johnson reviewed the significant progress that has

been made by the Electronics Committees over the period of their existence. One of the more important undertakings of the committee has been the presentation of the seminars these past eight years. He pointed out that none of the original eight electronics committee members is currently a member. The seminars themselves have changed from general presentations of manufacturers' equipment and progress reports by computer users to more specific discussions on day to day planning and operating problems.

Within the utility industry, many different manufacturers' computer equipment is being used or is being planned for use.

Mr. Johnson concluded by paying tribute to the pioneers in electronic data processing during the past decade.

Coffee maker

(Continued from page 15)

is eliminated and the customer gets a good cup of coffee that it not overheated after brewing.

In his fully automatic coffee making process, Ed merely sets the coffee pot on the thermostatically controlled gas burner and pushes a button. The rest is automatic.

First of all, the flame ignites and the water is heated to a predetermined temperature.

Next, the boiling water rises to the top of the coffee maker, agitates the coffee grounds and, as it cools, flows back into the glass container below.

When the water is in the top container, the gas burner automatically cuts off to a keep warm flame. This allows the coffee to automatically syphon back without equipment being removed from the burner. The burner will maintain the coffee at a delicious serving temperature between 170-180 degrees.

The waitress has only to set the pot on the burner, flip the control, and leave the rest to the automatic coffee maker. Minutes later, the coffee has been automatically brewed and is ready to serve.

Mulcahy's coffee maker was displayed at the A. G. A. 1960 Convention in Atlantic City. The working model is being made available to manufacturers for their information and application.

Facts and figures

(Continued from page 18)

trend in the economy.

The value of new private construction in the U. S. in November, 1960, totaled $3,398 million or 2.7 per cent less than the comparable month in 1959. For the year 1960 private construction is estimated at 2.5 per cent below 1959 levels, aggregating $39.0 billion. In contrast, the gas utility and pipeline industry expended $1,890 million during the year, a 9.4 per cent gain over 1959 construction.

Sales of gas to ultimate consumers during the month of November, 1960, were 7.4 billion therms or 0.5 per cent greater than sales in November, 1959. Consumption of gas by industrial users, who accounted for nearly half of all sales during the month, declined by 2.8 per cent and amounted to 3.7 billion therms.

Residential, commercial, and other sales increased by 3.9 per cent over 1959 to a total of 3.8 billion therms.

Underground LP-Gas

(Continued from page 17)

eration is expanded in two steps, from a 12-inch hole to a 54-inch diameter hole.

A steel casing, 5/8-inch thick, lines the hole. It is secured in its position with cement. The top 75 feet of the shaft has a diameter of 54 inches, the remaining 375 feet of the shaft has a diameter of 42 inches. The top 75 feet has an additional steel casing to prevent crumbling of the soil and rock sidewalls.

With the casing in place, the cavern miners are ready to begin work of digging the cavern which will have a capacity of 175,000 barrels. The first mining operation will require two miners to descend about 450 feet inside a barrel-sized bucket. They will take a pick and drill with them to burrow two holes big enough for setting the first charge of explosive—about 10 pounds. Then they will be pulled back to the surface, from where the dynamite charge will be detonated. After the blast, they will return to the base of the shaft and begin the laborious job of hand shoveling the loose limestone dislodged by the blast.

This operation will be repeated time and again until the hole is large enough to accommodate other miners and finally the disassembled shovel loaders and other earth-moving equipment.

The firm of Fenix & Scisson, Inc., Tulsa, Okla., is the general contractor on the project. In charge of the drilling job is the Moran Brothers Company, Wichita Falls, Texas. Both firms have had vast experience in cavern mining.

When the cavern is completed, capped and tested, it will be filled with liquid propane which will enter through a filling line. The propane will then be pumped as liquid from the cavern by means of submerged deep-well pumps to the processing plant. There, on near-zero days, it will be gasified and then will enter the distribution system of ULH&P and CG&E.

Air pollution

(Continued from page 22)

made to determine flue gas particulate grain loading and exit gas composition simultaneously.

The particulates are collected on a fiber glass filter with a self-developed high volume pump under isokinetic conditions. Integrated flue gas samples are withdrawn from the stack throughout the particulate sampling period at a constant rate by the liquid displacement method. Corrections are made later to reduce the grain loading to standard conditions of 50 per cent excess air and 500°F temperature.

A total of four different test charges, including the A. G. A. simulated garbage load are fired in the incinerator. In all cases duplicate tests for each charge are run for smoke, odor and fly ash evaluation and the results averaged.

An odor panel of five qualified persons makes periodic odor observations of the effluent gases at the dilution room outlet. These observations are made at one-minute intervals. Prior to these observations, the odor panel members familiarize themselves with the odor from the burning of two sheets of newspaper in the open container. This is the reference odor and is compared to the odor

in the discharged gases. Concurrently with odor observations, a trained observer is stationed in such a position as to view the smoke emitted from the incinerator through a glass panel inserted in the chimney. He records the density of the smoke in equivalent Ringelmann numbers at half-minute intervals. A scoring system is again used to reflect whether or not the incinerator smoke emission performance is acceptable.

The Bureau has tested 35 different model incinerators since the inception of the test program. Twenty-three of these were submitted for evaluation under our new regulations and 10 have fully passed our requirements. However, three of those rejected by our test procedures passed present A. G. A. test requirements.

A summary of the results for the more pertinent data is as follows:

1. *Smoke Emission*—There is a substantial reduction in the smoke liberated from the new incinerators. The results clearly show that the dehydrating (low input) unit was a true smoke generating apparatus when burning the garbage test charge. However, it can also be noted that the low input unit was a relatively good performer when incinerating the rubbish test charge.

2. *Fly Ash Emission (Particulate)*—The average particulate emissions from the new incinerators are approximately 69 per cent less than from the dehydration unit, and about the same as the older high input units for the garbage test charge. Similar reductions were recorded for incineration of the other classes of test charges.

3. *Odor Emission*—Unfortunately, direct comparison of the odor emission characteristics of the different incinerator classes is not possible, due to a change in the odor evaluation technique used for the new incinerators. None of the low or high input units passed the old odor evaluation tests. Since the revised technique is more stringent than the former one, the low and high input units obviously could not meet our current odor requirements. Without a doubt, there has been a marked decrease in the odor emitted from the new units.

4. *Total Btu Input*—The total heat input for the various classes of incinerators tested averaged as follows:

a) Low Input	1,400 Btu/hr.
b) High Input	15,700 Btu/hr.
c) New	34,900 Btu/hr.

The major increase in Btu input for the new unit can be attributed to the use of the secondary burner principle.

5. *Btu Input Per Pound Refuse Consumed*—The attainment of the improved performance characteristics of the new units has required significant increases in the total auxiliary fuel requirements per pound of waste consumed. It represents an approximate 25 per cent increase when compared to the low input units, and 225 per cent against the older high input units.

6. *Incinerator Effectiveness*—The incinerator effectiveness represents the per cent by weight of the charge which remains as a residue after completion of the incineration period. The low input units apparently did a more efficient job of dehydration than incineration, as can be seen by their poor performance in this test.

Although the new units require a higher total heat input than the older high input units, the amount of thermal energy directed to the primary chamber is approximately 25 per cent less. This reduction apparently has not adversely affected incinerator effectiveness, as compared to the old high input models.

7. *Peak Flue Gas Temperature*—Although the new units have a substantially higher thermal input, the average peak flue gas temperatures (after barometric damper) are surprisingly less. This is accomplished by restricting the quantity of combustion air admitted to the primary chamber which causes a "slowdown" in the refuse combustion rate.

Future aims

The success of this program can be attested to by the excellent field performance experienced over the past two summers, when one would expect nuisance conditions to occur. Although several hundred complaints have been registered to the Bureau over the past two years against the operation of domestic incinerators, only three were a result of operation of the new approved models. In two of these cases, the home owner was not using the gas burner; in the other case, the burner was defective.

These latter two findings however point up a very important inherent weakness in any waste disposal program geared on the use of domestic incinerators. If the gas burners are not used and the equipment is not kept in good repair then a large scale public nuisance situation can only result. It is considered impractical from an air pollution control agency standpoint to rely upon punitive enforcement procedures to solve any such deteriorating condition. The true success of any such program depends entirely upon the cooperation of the home owner in properly using and maintaining his equipment.

The following potential modifications in incinerator design and/or performance deserve some investigation:*

1. General improvement in smoke, odor and fly ash emission.
2. Reduction in total required burning time per waste charge.
3. Reduction in total required Btu input per waste charge.
4. Reduction in per cent of unburned waste in residue.
5. Improvement in the life of the materials of construction.
6. Elimination of the barometric damper in the breeching and relocating it as an integral part of the incinerator to facilitate installation and to prevent variations in field settings.
7. Redesign of incinerator to permit burning of dry waste materials without depending upon high Btu auxiliary heat.
8. Redesign of incinerator to permit back-draft free service or low draft conditions.
9. Reduction in breeching and exterior casing surface temperatures.
10. Development of fool-proof timer mechanism to prevent shutting off of main gas supply before minimum time established for effective incineration.
11. Development of more effective techniques for removal of ash to reduce difficulty in fouling of pilots and ignition of main charge.

To our knowledge, the Detroit regulations and test procedures spelled out for the first time in simple terms the extent of emissions from domestic incinerators which would be permissible, and how these emissions were to be evaluated. Subsequent to, and possibly as a result of the passage of our regulations, the A. G. A. undertook a review of their long-standing requirements and modified their regulations to include many of the provisions in Detroit's test procedures.

(* Ed. note: Since this paper was delivered, a number of advances in gas incinerator design have been made by manufacturers. Other recommended improvements are subjects of continuing research.)

Industry news

Gas task force to offer plan to New York health board

TO HELP ASSURE safe operation of old-type gas refrigerators in New York City without reflecting unfairly on new models and other types of residential gas equipment, gas industry representatives last month proposed to the Board of Health a series of changes in the local health code.

The recommendations were designed to counter previous proposals made by the health department. Arising from incidents in which some gas refrigerators, mainly old, defective or improperly serviced units, were found to be unsafe, the health department proposals could have resulted in a virtual ban in the city on all classes of gas refrigerators.

As offered in a hearing on January 9, the gas industry recommendations include submission of new models of gas refrigerators to the health department for approval, reporting by owners or landlords of "non-approved" refrigerators in use, and establishment of a system for regular inspection and servicing.

The Board of Health indicated that its adoption of the gas industry proposals hinged upon the health department's acceptance of the industry's provisions for implementation. A task force, consisting of representatives of A. G. A., manufacturers, the three New York City gas utilities, servicing agencies, and the health department, was formed and immediately began work to draft details of a satisfactory plan.

The Board of Health stated that it would take further action at a meeting in February.

Meanwhile, at its January meeting, the Board voted a prohibition "in principle," effective April 9, 1961, applicable only to water-cooled gas refrigerators, "defective and non-operable" units, and units with non-rust resistant flues.

Laboratories' bulletin describes experimental oven

THE DESIGN and performance of the experimental Celeriter deck oven is described in a recent research bulletin by the A. G. A. Laboratories.

Research Bulletin 85, *High Speed Deck Oven Design and Baking Studies, Part II: The Celeriter Oven,* reports research by the Laboratories performed under A. G. A. PAR Research Project IA-9. The project was sponsored by the A. G. A. Committee on Industrial and Commercial Gas Research. This bulletin is an extension of previous work reported in A. G. A. Laboratories Research Bulletin 81, *High Speed Oven Design and Baking Studies, Part I: The Polythermic Oven.*

The Celeriter oven was designed to utilize forced convection as an improved means of heat transfer in a deck oven. The oven was equipped with a perimeter radiant burner system which was mounted in the roof of the baking compartment.

With increased turbulence of the hot gases in the baking compartment, a wide variety of products were satisfactorily baked in about one half of the time required by conventional bake ovens. Radiant heat application to foods also reduced baking time by as much as 50 per cent for most products.

High-speed meat roasting was achieved with this oven using forced convection, and raw and precooked frozen foods were reconstituted in times well below those required by conventional equipment.

This bulletin describes the design features of the Celeriter oven, the effect of air flow variations on baking and hearth baking, as compared to rack baking, and effects of combustion products in the circulating air stream.

Research Bulletin 85 was written by D. M. Spinell of the Laboratories staff. Copies are available from the Laboratories, 1032 East 62nd St., Cleveland 3, Ohio, or from A. G. A. Headquarters for $2 each. (Please specify catalog number 36/IR.)

Mountain Fuel stock listed

MOUNTAIN FUEL Supply Co., Salt Lake City, Utah, was recently listed on the New York Stock Exchange. The company's ticker symbol is MFS.

W. T. Nightingale, president of the company, was on hand at the listing ceremony along with M. M. Fidlar, executive vice president; B. Z. Kastler, Jr., secretary; and W. L. Williams, treasurer.

Listing the company's stock on the New York exchange should improve the marketability of the stock and provide added conveniences for stockholders and other investors, Mr. Nightingale said. Since 1935 the stock has been listed on the Pittsburgh (Pa.) Stock Exchange.

Names 111 to petroleum council

FRED A. SEATON, U.S. Secretary of the Interior, has announced the appointment of 111 leaders in the petroleum and gas industries to the National Petroleum Council.

The council established 14 years ago consists of active leaders in the petroleum and gas industries, with representation for each of the principal segments of industry and the geographic areas used in civil and defense mobilization planning.

Of interest to gas industry members are the appointments of the following:

F. M. Banks, Southern California Gas Co.; Eskil I. Bjork, The Peoples Gas Light and Coke Co.; Orville S. Carpenter, Texas Eastern Transmission Corp.; James Comerford, Consolidated Natural Gas Co.; George R. Copeland, Algonquin Gas Transmission Co.; Paul Kayser, El Paso Natural Gas Co.; N. C. McGowan, United Gas Corp.; William G. Maguire, Panhandle Eastern Pipe Line Co.; W. E. Mueller, Independent Natural Gas Association of America; L. T. Potter, Lone Star Gas Co.; C. Pratt Rather, Southern Natural Gas Co.; S. D. Whiteman, Kansas-Nebraska Natural Gas Co.; and George S. Young, The Columbia Gas System.

Tapes replace heavy steel jigs for drilling

First of two tape-controlled multispindle drill machines built to specifications of Carrier Air Conditioning Company by Moline Tool Company will enable Carrier to reduce production expenses and speed delivery of large-capacity cooling machines. Vice President F. A. Littlefield and drill operator examine one of 275 six-foot tapes that control patterns of holes drilled in cooler and condenser tube sheets

Wins second McCarter medal

Daniel Harkins, serviceman for Philadelphia Gas Works division of The United Gas Improvement Company, is given award for saving customer's life by C. G. Simpson (l.), general manager. C. S. Hazel (r.) is director of customers service

Robertshaw forms controls subsidiary in Japan

ROBERTSHAW-FULTON Controls Co., Richmond, Va., has formed a new subsidiary for the purpose of manufacturing automatic controls in Japan.

The subsidiary, to be known as Robertshaw Orient, Ltd., is the result of an agreement between Robertshaw-Fulton and a group of prominent Japanese interests, among them Toyo Menka Kaisha, Ltd., one of the largest Japanese trading companies. Tatsuo Nakayama, former sales agent for Robertshaw products in Japan, will also be associated in the new undertaking.

L. P. Handy, formerly of the company's aeronautical and instrument division, will be president and managing director of the new subsidiary. Tadashi Shuto, of Tokyo, will be vice president.

Production by Robertshaw Orient will be centered in a building to be constructed in the Shinagawa-ku section of Tokyo. The plant will be geared to mass production of controls, to fill the needs of the fast-growing market in Japan and Southeast Asia, the Philippines, Formosa (Taiwan), and Hong Kong.

Grayson Controls announces new water heater pilot

A NEWLY DESIGNED pilot for water heaters, believed to assure trouble-free performance by combining the best features of incinerator and target-type pilots, has been announced by Robertshaw-Fulton Controls Company's Grayson Controls division, Long Beach, Calif.

The new CinTarg or 2C pilot, according to company officials, provides superior flame stability and excellent non-linting characteristics. It has no shutters, lint screens, or supplementary shields that require assembly or adjustment. Multiple hood mountings are available with it to provide direct left- or right-hand flame patterns for ease in application.

CinTarg is designed with self-compensating action in respect to primary air injection that enables the pilot to operate over an extremely wide range of gas pressures. This is said to eliminate the need for pilot gas regulation.

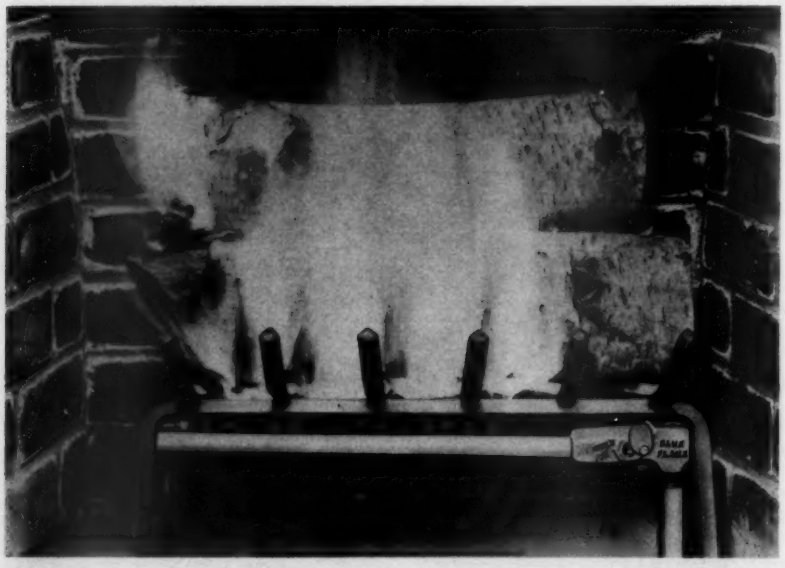
A deflector lip on the target hood directs the pilot flame in such a manner as to obtain good thermocouple impingement at minimum operating pressures. An additional feature is a snap-on thermocouple that makes it easier to assemble and provides positive positioning.

The Peoples Gas system sets record for cubic feet of gas sent out

THE PEOPLES Gas system, of which the parent company is The Peoples Gas Light and Coke Co., Chicago, Ill., established a record high send-out of 2,126,000,000 cubic feet of gas in the 24-hour period ended at noon December 23, 1960, to the 26 utility companies it serves in seven Midwestern states. The average temperature during this 24 hours was six degrees below zero, with a high of three degrees above zero and a low of 13 below. Of the total send-out, which is based on preliminary figures, 1,620,000,000 cubic feet came from long-distance pipeline facilities, and 506 million cubic feet were taken from underground storage reservoirs.

Peoples Gas Light and Coke, which serves Chicago, had a record send-out of 780 million cubic feet to its one million customers. This compares with the earlier record of 740 million set in the 24-hour period ended December 22, 1960.

Gas-fired gadget lights logs without kindling



A novel use of gas that originated in California is the Blue Flame log lighter. An inexpensive device to be installed in a fireplace to ignite logs, it makes kindling unnecessary. For details on the log lighter, write to Canterbury Enterprises, 6253 Hollywood Boulevard, Hollywood 28, Calif.

Columbia Gulf to expand

THE COLUMBIA Gulf Transmission Co., Houston, Texas, has planned a $15 million expansion in 1961 for its long-distance pipeline to enable it to deliver more natural gas to companies of The Columbia Gas System.

The capacity of the line would be raised by 52 million cubic feet per day to a daily volume of 718 million cubic feet.

The 841-mile main line of Columbia Gulf runs from Rayne, La., to Catlettsburg, Ky., where it delivers Louisiana natural gas to the main pipeline network of the Columbia system for delivery to 3,200,000 customers.

Airtemp furnace wins award

A NEW GAS-FIRED furnace introduced last spring has received a design award for the Airtemp division of Chrysler Corp., Dayton, Ohio.

The Model 4110 Lo-boy was the only furnace selected for inclusion in *Industrial Design* magazine's annual design review. According to the magazine's editors, this review is made up of the best-designed products from all of American industry.

The Lo-boy has two front colored panel inserts for individual colored textural selections designed to harmonize with modern basements and recreation and family rooms.

Grease vapor removal studied

THE CONSTRUCTION and performance of an experimental grease vapor removal type gas-fired incinerator for commercial kitchens is described in a recent publication by the A. G. A. Laboratories.

Research Report 1,323, *A Study of Methods of Grease Removal from Commercial Kitchen Exhaust Air,* reports research performed by the A. G. A. Laboratories as a PAR plan activity under Project IA-12 sponsored by the A. G. A. Committee on Industrial and Commercial Gas Research.

Certain cooking operations in commercial cooking establishments cause various amounts of grease vapor to occur. Although metal mesh filters are used to remove a portion of the grease vapor from the kitchen exhaust air before the grease reaches the exhaust duct, grease collects on the filters and a portion of the grease vapor that passes through the filters will accumulate in the exhaust duct. This undesirable grease accumulation necessitates frequent cleaning of both the filters and the exhaust duct to prevent its becoming a hazard.

Recognizing the problems that result from grease accumulation on filters and in kitchen exhaust systems, the sponsoring committee authorized the Laboratories to investigate methods of removing grease and odor from kitchen exhaust systems. If possible, an experimental gas-fired grease removal type incinerator that would burn grease and odor to eliminate the cleaning problem and that could be located in an exhaust system was to be developed.

Research Report 1,323 discusses the problems involved in the removal of grease from commercial kitchen exhaust air. Also, the construction and performance of an experimental grease vapor removal type gas-fired incinerator is described. This experimental grease vapor incinerator accomplished 97.5 per cent grease removal at 200 cfm exhaust air flow rate, with a gas consumption of 47,000 Btu per hour. This exceptionally high percentage of effective grease vapor and odor removal from exhaust air represents a major scientific breakthrough in the safety and performance of a kitchen exhaust system. Some conventional filters that were tested under the same experimental conditions removed only 80 per cent of the grease vapor from the exhaust air.

Research Report 1,323 was prepared by W. L. Marn of the Laboratories research staff. Copies are available from the A. G. A. Laboratories, 1032 East 62nd St., Cleveland 3, Ohio, and A. G. A. Headquarters for $1 each. (Please specify catalog number 37/IR.)

Panhandle Eastern makes big move to new offices

A sun control system and air conditioning outlets that are incorporated in ceiling light fixtures are two indoor features of the new office building of Panhandle Eastern Pipe Line Co., Kansas City, Mo. Outdoors, a large sign on the building will be lighted at night to display the symbolic blue flame

Film shows use of jet engine for compressor station

MODERN TALKING Picture Service has announced that The Columbia Gas System has made available through Modern's film libraries a new, free 16-mm. sound film that may be of interest to members of the gas industry.

The film, "The Constant Search," describes the development of the RT-248 jet gas turbine for a natural gas compressor station and follows the process from design to installation and operation. Powered by a jet engine that never reaches maximum speeds, temperatures, or stresses, the turbine weighs only one sixth as much as similar units of conventional design. Furthermore, it substantially reduces costs of installation, maintenance, and operating.

The film shows the RT-248 in operation as it develops 10,500 rotative horsepower while pumping 600 million cubic feet of natural gas a day northward from a southern compressor station. It is the first of a family of jet-powered gas turbines to be rated from 350 to 15,000 horsepower. Similar power plants are expected to find widespread use in the natural gas, petroleum, and petrochemical industries, as well as in the fields of electric power generating and marine applications.

Prints of the film may be borrowed from Modern's film libraries in the area served by the Columbia system for showing to technical schools, colleges, and interested adult groups. This includes Kentucky, Maryland, New York, Ohio, Pennsylvania, Virginia, West Virginia, and Washington, D. C. Requests sent to Modern Talking Picture Service, 3 East 54th Street, New York 22, N. Y., will be forwarded immediately to the proper film library.

Gas heat protects piglets

A litter of young porkers beneath gas infrared heater stays warm despite 11-degree outdoor temperature. The Nutrena unit operates at about one fourth cost of electric heat lamps

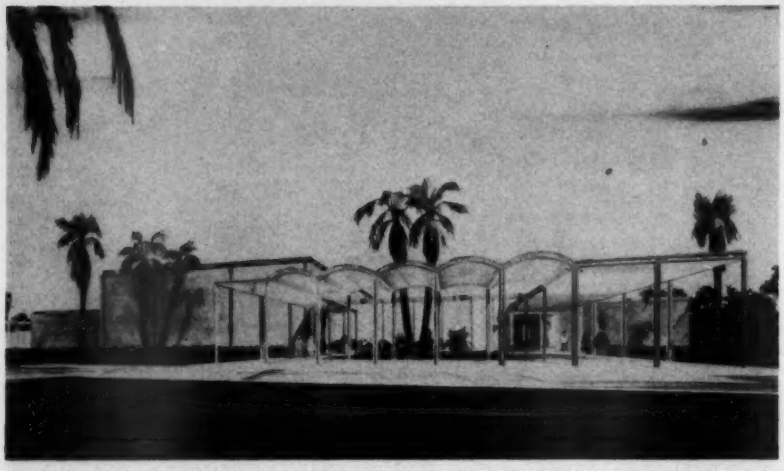
Publish Pacific Coast Gas Association proceedings

THE PROCEEDINGS for 1960 of the Pacific Coast Gas Association have been published. Volume 51 of the organization's proceedings includes addresses and technical papers on matters of interest to the gas industry in the general areas of administrative services, manufacturers, operating, and sales and advertising.

Included are addresses by Wister H. Ligon, past president of A. G. A. and president of the Nashville Gas Company; Wendell C. Davis, president of the Gas Appliance Manufacturers Association; and Judson S. Sayre, chairman of the board and chief executive officer of the Norge division of Borg-Warner Corporation.

The names of those who were presented with A. G. A. Safety Awards for 1960 are listed in the general sessions section of the publication.

Gas combination heating and cooling cuts costs in school building



This is the architect's conception of the windowless elementary school being built for Dayton Independent School District in Texas. Architects, engineers, and school officials have hailed the independently controlled zone gas heating and air conditioning system that will limit project cost to $364,524

CONSTRUCTION has begun on an elementary school in southeastern Texas that has attracted much attention because of its individually controlled gas air conditioning and heating system and its windowless design. Because of these mechanical and architectural features, the square-foot construction cost of building the Dayton Elementary School will be $9.32, an unusually low figure for such a project.

A spokesman for the project said recently, "The saving is enough to pay the operating costs of the gas heating and air conditioning system. The design has cut down considerably on corridor length, piping, exterior walls, and other construction factors which raise costs.

"We estimate that the use of this type of gas heating and cooling system will save more than $110 a month in utilities' costs alone for the life of the building, as well as substantially reducing other maintenance and operating costs."

The automatic gas heating and air conditioning system will circulate chilled or heated water independently in office, classroom, and cafeteria-auditorium areas. All these areas have individual control, and simultaneous heating and cooling will be available in different areas.

This individual control is obtained by circulating chilled water through a natural gas engine-driven reciprocating compressor. Hot water circulated through the system is obtained from the engine jacket, as in the heating systems of most water-cooled automobiles.

Since the building is windowless, an emergency lighting system is provided for all areas, with an emergency generator as stand-by in case of a power failure. All classrooms will have clocks, public address speakers, telephone-type intercommunication systems for teachers, and individual wash basins with drinking fountains. The design adds flexibility to classroom arrangements for visual aids and seating. There is more blackboard space, and the children can be seated in any manner the teacher desires.

The fireproof building was designed with concrete frame, slab foundation, and double masonry walls, the outside walls being finished with warm buff face brick. Corridors, rest rooms, the kitchen, and the cafeteria-auditorium will have terrazzo flooring, and the walls will be finished with glazed tile.

United Gas System will serve the school project with natural gas. Architects for the school are Wylie W. Vale, A.I.A. and E. D. Carter and E. A. Wilpitz, Associates, of Houston, Texas.

First sections of Alberta-California pipeline laid

Workmen make a weld on Pacific Gas and Electric Company section as first U. S. portions of 1,400-mile pipeline are laid at Oregon-California line

THE FIRST PIPE was lowered into the ground recently on the U.S. portion of the 1,400-mile, $300 million Alberta-California natural gas pipeline.

Welders joined 80-foot sections of the yard-wide steel pipe, and side-boom tractors eased the pipe into a trench at the Oregon-California border near Malin, Ore., about 22 miles southeast of Klamath Falls.

Approximately 1,500 Canadian and American workmen, plus squadrons of machines, had worked for two months clearing and grading the right-of-way; digging trench; and stockpiling, coating, and wrapping pipe along the roller-coaster route in Alberta, British Columbia, Idaho, Washington, Oregon, and California.

The pipeline from Canada is being constructed to increase the supply of natural gas to the seven million people residing in Pacific Gas and Electric Company's service area in northern and central California. Beginning next winter the line will deliver 415 million cubic feet of gas a day or about 22 per cent of the utility's total supply.

Peoples Gas plans expansion

THE Peoples Gas Light and Coke Co., Chicago, Ill., has announced its pipeline subsidiary, Natural Gas Pipeline Company of America, has planned expansion projects for 1961 that total $52,310,000.

The most recent project, outlined in a certificate filing with the Federal Power Commission, would increase the pipeline company's daily delivery capacity by 60 million cubic feet through construction of 257 miles of 30-inch loop line and increased compressor capacity.

Also pending is an earlier application of Natural Gas Pipeline to add 100 million cubic feet in daily capacity through expenditures for supercharging compressors and construction of 89 miles of loop line. Another subsidiary of Peoples Gas has been authorized to increase its storage withdrawal capacity in 1961 by 75 million cubic feet daily.

San Diego utility puts 52-mile line in operation

SAN DIEGO Gas and Electric Co., San Diego, Calif., has placed its new 30-inch, $7,236,000 natural gas transmission pipeline in commercial operation.

The 52-mile line, running from Rainbow, near the Riverside-San Diego counties border, to Friars Road in San Diego, more than doubles the pipeline deliverability of natural gas to the San Diego area, specifically from 175,700,000 to 353,700,000 cubic feet a day. In addition, this installation will provide space for storing approximately 51 million cubic feet of gas, raising the capacity of the utility's total storage facilities to 74,655,000 cubic feet.

The new pipeline was built in the rapid time of four months so that it would be available for meeting the expected peak demands of the winter season of 1960-1961.

Northern Natural extends service

NORTHERN NATURAL Gas Co., Omaha, Nebr., has announced plans to make natural gas service available to 165 additional communities in 1961. The expansion plans call for extension of service to 103 communities in Iowa, 43 in Minnesota, 14 in South Dakota, four in Nebraska, and one in Illinois.

These communities are part of a 342-town program authorized for service by the Federal Power Commission in 1959. Fifty-eight communities were given service during 1960.

Stand-by generators approved

A NEW AIR-COOLED 2,500-watt, remote-starting Onan stand-by electric generating plant, announced to the trade in 1960, has received the certificate of approval by the industrial board of the Pennsylvania Department of Labor and Industry.

One of scores of Onan stand-by plants to receive this coveted approval, this new series of 3,600 rpm units is available in two different outputs. Model 205AJ-1R30 and Model 205AJ-3R30 are both gasoline-driven.

Gas lights set a Texas tradition

The Fort Worth, Texas, division of Lone Star Gas Company installed 75 gas lights on three levels of its office building as part of city's 1960 Yule decoration—with such good results that they have decided to make it an annual custom

Utilities sponsor third architecture scholarship

STUDENTS of architecture in junior colleges and colleges throughout Southern California are preparing entries for competition for the third annual F. S. Wade scholarship awarded by Southern California and Southern Counties Gas companies.

The $1,000 scholarship is available to students who have completed one or more years in a college or junior college located in the operating territories of the two utilities.

Given for study in the School of Architecture of the University of Southern California, the scholarship is awarded for the best original design submitted as a solution to a specific design problem.

This year's problem, calling for an original family kitchen area employing specified gas equipment, limits the total area to 400 square feet and must include a kitchen, indoor breakfast area, outdoor dining area, and utility area, with space for a laundry and gas air conditioner.

Entries will be judged by a panel of four members of the American Institute of Architects and a representative of the gas companies. The contest closes April 12, 1961.

A. G. A. Laboratories publish tables for designing gas vent systems

GAS VENT tables for designing single and multiple appliance gas vent systems have been published in Research Report 1,319, *Gas Vent Tables*, by the A. G. A. Laboratories.

These gas vent design tables have been prepared from the venting charts previously published by the Laboratories in Research Report 1,300, *Sizing of Vent Pipe and Chimneys for Gas Appliances*. Use of these tables simplifies the calculations that are ordinarily involved in the design of a gas vent system.

Individual tables have been prepared for double-wall metal vent pipe, for single-wall or asbestos cement vent pipe, and for masonry chimneys for a single appliance vent application. Corresponding tables for multiple appliance vent application have also been included.

Research Report 1,319 presents sample solutions using the gas vent tables for several types of vent configurations commonly encountered and discusses other design factors.

This manual, including the gas vent tables, was prepared by E. H. Perry of the A. G. A. Laboratories staff as a PAR plan activity sponsored by the A. G. A. Committee on Domestic Gas Research. Copies of Research Report 1,319 are available from the Laboratories, 1032 East 62nd St., Cleveland 3, Ohio, or from A. G. A. Headquarters for $1 each. (Please specify catalog number 137/DR.)

List February publications

PREMIUMS AND PRINTED MATERIALS

- **When You Want the Finest Range Money Can Buy, Look for the Gold Star** (1961 edition). A leaflet giving 1961 Gold Star specifications in the language of the consumer. $9.70 per 1,000, postage prepaid. Cat. no. 23b/GD.

STATISTICS

- **Methods of Measuring Average Gas Use of Appliances.** A chapter in the *A. G. A. Marketing Research Handbook*. Free. Cat. no. 70/S.
- **Proceedings of the open meeting of the A. G. A. Financial Management Committee,** Broadmoor Hotel, Colorado Springs, Colo., September 12 and 13, 1960. $1 per copy. Cat. no. 71/S.

INDUSTRIAL AND COMMERCIAL

- **Air Conditioning Sales Reference Manual.** Lectures from 1960 Gas Air Conditioning School. $9 per copy. Cat. no. 112/I.
- **Hot Blast for the Foundry Cupola,** by Henry Apthorp. Information Letter 120. First 25 copies, free; 26 or more copies, 25 cents each. Cat. no. 113/I.

School draws utility, manufacturing engineers

Representatives of Ruud Manufacturing Company and local utilities in attendance at a commercial gas water heater school for mechanical specifying engineers held recently in Pittsburgh, Pa., included (l. to r.) Elton B. Linhart, Walter McWilliams, Charles Benn, H. A. Woodward, M. Washabaugh, E. M. Dailey, Fred C. Peters, Mervin Thomas, Clarence King, Howard Whipkey, Lloyd White, Gilbert Smith

Highlights of cases before the Federal Power Commission

Bureau of Statistics, American Gas Association

Certificate cases

● **Arkansas Louisiana Gas Co.** has sought approval of a budget-type application to construct facilities as needed to take new supplies of natural gas into its main transmission system. The total cost of these facilities would not exceed $6.9 million, with the cost of a single project limited to $500,000.

● **Cities Service Gas Co.** has been authorized to develop the Alden Field in Rice County, Kans.; as an underground natural gas storage area; to add nearly 30,000 compressor horsepower in new and existing stations; and to construct a 2.7 mile loopline at a combined cost of $10.5 million. The additional compressor horsepower will increase the sales capacity of the Kansas-Hugoton pipeline by 91 million cubic feet daily. These facilities will be used to meet increasing demands of present and future customers and to enable the company to meet its "take" obligations from the Hugoton Field.

● **Columbia Gulf Transmission Co.** has filed a budget-type application proposing the construction of facilities as required to add new natural gas supplies to the system. The over-all cost would not exceed $1.5 million, and each project would be limited in cost to $500,000.

● **El Paso Gas Supply Co.,** a newly formed, wholly owned subsidiary of El Paso Natural Gas Co., has filed an application proposing the construction of natural gas pipeline facilities costing approximately $29.6 million. The application includes about 227 miles of 30-inch pipeline; a 7,000 compressor horsepower station; and communication, metering, and appurtenant facilities. The proposed facilities would be used to transport up to approximately 210 million cubic feet of natural gas per day for its parent company.

● **El Paso Natural Gas Co.** has been authorized to construct facilities to acquire, process, and transport natural gas from the Brown Bassett field, Terrell County, Texas. Under a temporary authorization granted in 1960, the company has constructed a gathering system, a plant to desulphurize and dehydrate, and a 52-mile, 20-inch supply lateral—all at an estimated cost of $10 million. At the same time three producers have been authorized to sell up to 221.2 million cubic feet of raw gas per day from the Ellenburger formation but have been denied a request to sell gas from the Fusselman formation. As a result, shrinking caused by processing and by use as fuel will leave only about 100 million cubic feet per day of pipeline quality gas available for marketing.

● **El Paso Natural Gas Co.** and **Colorado Interstate Gas Co.** have been authorized to build the necessary pipeline facilities to supply an additional 470 million cubic feet of natural gas per day to market areas in southern California and to increase service to Colorado Interstate's Rocky Mountain customers. The authorization, essentially the same as approved by a presiding examiner in a decision filed in July, 1960, is now conditioned upon a decision to be resolved by the California Public Utilities Commission. That commission will decide whether the requirements of the Southern California Edison Co. are to continue to be supplied by the local distribution companies or by other sources. El Paso Natural Gas will construct a 395-mile pipeline from Provo, Utah, to the California border and a 7,200 horsepower compressor station at an over-all cost estimated at $58.7 million. Colorado Interstate will sell to El Paso half of the 470 million cubic feet of natural gas daily proposed for the California market and will build a 155-mile pipeline from Rock Springs, Wyo., to Provo, Utah, where it will connect with the El Paso line. In addition, the Colorado company will strengthen its own system by constructing nearly 477 miles of line and installing 83,800 horsepower in compressor capacity at new and existing stations to enable it to provide at least 44 million cubic feet of additional capacity for its Rocky Mountain customers. The over-all cost of the Colorado Interstate facilities is estimated at more than $92.8 million.

● **Lone Star Gas Co.** has been authorized to construct budget-type natural gas facilities during 1961 at a total cost not to exceed $1 million. The cost of a single project to add new supplies to the system will not exceed $250,000.

● **United Gas Pipe Line Co.** has been authorized to construct facilities during 1961 at a total estimated cost not to exceed $3 million, with the cost of any single project not to exceed $400,000. These facilities will be used from time to time to take new supplies of natural gas into the main pipeline system.

Rate cases

● **East Tennessee Natural Gas Co.,** in settlement of three rate cases approved by the FPC, will refund a total of approximately $594,000, plus interest, to 24 wholesale customers in Tennessee and Virginia. The settlement covers a $578,000 annual increase in effect from July 14, 1957, until May 14, 1959; a $615,400 increase effective from May 15, 1959, until April 4, 1960; and an $894,900 increase that became effective on April 5, 1960. The question of the proper rate of return and proper income taxes applicable to the company in the most recent rate case has been left for future determination. The company has agreed not to file for a further rate increase prior to December 15, 1961.

● **Natural Gas Pipeline Company of America,** in a settlement approved by the commission, has agreed to refund approximately $3,817,345, plus interest, to 27 wholesale customers in Illinois, Indiana, Iowa, Kansas, Missouri, Nebraska, and Wisconsin. The settlement covers a proposed $4,987,000 annual rate increase by the company, in effect from December 20, 1958, until September 2, 1959, and a proposed $1.6 million annual increase in effect from May 22, 1958, until September 2, 1959, by the subsequently merged Peoples Gulf Coast Natural Gas Pipeline Co. The company is required to pass along to its customers a possible additional refund if a pending income tax allowance question is resolved against it.

● **United Gas Pipe Line Co.** has applied for a $4,860,000 or 3.9 per cent annual wholesale natural gas rate increase that would affect about 50 utility customers in Arkansas, Florida, Louisiana, Mississippi, and Texas. The company still has six other rate increase proposals aggregating nearly $46 million pending before the FPC. All have become effective subject to refund since April 1, 1956. The latest request for an increase in rates is based upon the higher cost of purchased gas and a 6¾ per cent rate of return and again contains the suggestion that something be added to return possibly 1.25 per cent (to compensate for erosion of earnings through regulatory lag and inflation).

SUMMARY OF INDEPENDENT GAS PRODUCER RATE FILINGS—NOVEMBER, 1960

	Number	Annual Amount
Tax rate increases allowed without suspension	—	$ —
Other rate increases allowed with suspension	69	673,422
Rate increases suspended	50	841,263
Total rate increases	119	1,514,685
Tax rate decreases allowed without suspension	—	—
Other rate decreases allowed without suspension	3	13,598
Total rate decreases	3	13,598
Total rate filings (all types)	708	—
Total rate filings acted on from June 7, 1954, to November 30, 1960	51,003	—
Rate increases disposed of after suspension (during month)	105	396,254
Amount allowed	—	351,754
Amount disallowed	—	8,560
Amount withdrawn	—	35,908
Rate increases suspended and pending at end of month	3,552	$169,449,867

SUMMARY OF PIPELINE COMPANY RATE FILINGS—NOVEMBER, 1960

	Number	Annual Amount
Increases under suspension at beginning of month	112	$417,157,701

Increases suspended during month	2	15,338,500
Increases disposed of after suspension	1	10,683,900
Amount allowed	—	—
Amount disallowed	—	10,683,900
Amount withdrawn	—	—
Increases allowed without suspension	—	700
Increases suspended and pending at end of month	113	$421,812,300

In other FPC actions, Northern Natural Gas Co. has been authorized to acquire by merger all existing natural gas facilities of its subsidiary, Permian Basin Pipeline Co. The merger will simplify the physical operations of the combined systems.

SUMMARY OF PIPELINE COMPANY CERTIFICATE FILINGS AND ACTIONS—NOVEMBER, 1960
(construction and operation only)

	Number of Applications	Miles of Pipeline	Compressor Horsepower	Estimated Cost
Pending at beginning of month*	197	7,029	572,490	$847,376,717
Filed during month	22	316	16,400	51,967,806
Issued during month	20	557	5,360	47,380,576
Otherwise disposed of during month	1	0	0	0
Pending at end of month	198	6,788	583,530	$851,963,947

* Adjusted to include amendments and supplements to applications and modifications of certificates

Municipal financing plans sell gas disposers in Saskatchewan

SMOKELESS, ODORLESS gas disposers are being sold by the hundreds to homeowners in the Canadian province of Saskatchewan as the result of a residential program instituted by community officials in the city of Saskatoon.

This bustling community was confronted with a problem facing cities everywhere—spiraling costs of garbage and trash pickup and disposal. Apart from collection costs, it faced the recurring need for new disposal areas or for the installation of expensive municipal incinerators.

The answer was a far-reaching plan, known as the residential incineration program, suggested by Saskatchewan Power Corporation. It provided for the cessation of collection of wet garbage, the institution of periodic pickups of non-combustible trash, and the offering to the city's residents of alternative plans for the purchase of individual residential disposers.

Separate plans were offered in new and existing areas of the city. In existing areas the plan called for: (1) a full cash payment with a discount of $5 applying; or (2) a $50 down payment, with financing of the balance at $1 per month on the gas bill; or (3) no down payment, with financing of the entire cost of the unit by a $2 per month surcharge on the gas bill. Tax allocations from the city budget to citizens installing home incinerators were also offered.

The acceptance of this program was immediate. More than 200 applications were received in the first weeks after the announcement of the plan and before the launching of the major advertising program for the project. By July, 1959, the first disposer installations under the new home incinerator plan were made in Saskatoon.

Soon other towns served by Saskatchewan Power were introducing similar plans. In Moosomin, the plan called for a monthly payment of $1.50. In Yorkton, the program allowed any homeowner to install an incinerator for $114, with the city contributing $6 per year for five years for each unit. The balance of $84 could be paid in cash, for which a discount of $5 would be given, or it could be paid in the form of a surcharge on the customer's gas bill of $1.50 a month for 56 months. No down payment was required.

According to recent reports from the province, the program has been and continues to be highly successful. Homeowners have responded to it quickly and favorably, and city officials believe it will provide substantial relief to city budgets.

Growth of Canadian gas industry continues, with 21 per cent increase

THE CANADIAN natural gas industry has approached 1961 with a high level of confidence based not only on the industry's phenomenal growth in recent years, but on a planned program of consolidation with particular emphasis on improved marketing methods, according to William H. Dalton, managing director of the Canadian Gas Association.

Said Mr. Dalton, "There is substantial new business available. . . . One needs only to examine gains made in the current year (a 21 per cent increase in sales by utilities over 1959) to appreciate the untapped potential for still further business in 1961."

Of the 85,000 new customers in 1960, more than 12,000 are either industrial or commercial users, a significant indication that industry and other enterprises are looking to natural gas to meet their requirements.

"The increase in domestic sales in 1960 is evidence that the true values of natural gas and its benefits over more expensive forms of fuel are achieving rapid recognition . . .," said Mr. Dalton. "This trend toward domestic consumption of natural gas can be expected to continue and indeed be given added impetus by recent changes in the National Housing Act which are aimed at bolstering the nation's sagging residential building program.

"Canada's chartered banks and the financial community in general," he said, "continue to lend their support in raising development capital for the industry's growth and expansion. A total of $1.4 billion has been invested in the industry to date, and a further $1 billion will be added to this investment by 1965."

Transcontinental Gas Pipe Line plans $100 million expansion program

NEW CONSTRUCTION estimated to cost $100 million has been planned by Transcontinental Gas Pipe Line Corp., Houston, Texas, to expand the capacity of the system that ten years ago first brought natural gas to the New York area.

Of this program $70 million awaits final approval of the Federal Power Commission. An application for additional facilities costing $30 million has been filed. Completion of all facilities in pending and proposed applications would increase the pipeline's daily allocated capacity from the present 1,262,000,000 to 1,496,000,000 cubic feet. Storage capacity would be increased from the present 340 million to 457 million cubic feet per day giving the line a maximum potential daily capacity of 1,953,000,000 cubic feet of natural gas per day.

About $52 million were spent last year in constructing additional pipeline and compressor facilities sufficient to meet the demands of its customers for the current winter heating season.

When fully completed, the program will give Transcontinental three parallel pipelines from the gas supply areas of the southwest to New York. Two compressor stations and an increase in compression capacity of existing stations are included in the program.

Canadian Gas Association moves to consolidate laboratory, offices

THE FIRST STEP in the consolidation of the offices of the Canadian Gas Association has been announced. The association expects to move its testing laboratory, now located at the Ontario Research Foundation, into new quarters in the northeastern section of metropolitan Toronto, Canada, this month.

The new CGA headquarters are in a modern, one-story building of brick and concrete located on a 2.7-acre site in North York. The association's board of directors approved the purchase of this building in November, 1960.

The installation of the association's approvals division will likely follow in June, 1961, upon completion of a two-story addition to the existing building.

Of particular importance in the pending move are the timesaving advantages of a consolidated operation as compared with the present system, in which the approvals division is five miles from the testing laboratory.

Personal and otherwise

GAMA's Massey elected chairman of the ASA standards council

HAROLD MASSEY, managing director of the Gas Appliance Manufacturers Association, New York, N. Y., has been elected chairman of the standards council of the American Standards Association for a one-year term begun January 1, 1961. Members of the standards council have also elected E. O. Mattocks, director of technical services of the American Petroleum Institute, to serve as vice chairman. The council has the ultimate responsibility for guiding the voluntary national standards program being conducted under the association's procedures for standardization.

Mr. Massey and Mr. Mattocks have long been active in standardization through the gas appliance and petroleum industries' participation in ASA. The standards council is composed of representatives of 65 member bodies comprising the ASA federation and is responsible for issuing approval of a standard as an American standard. As of December 1, 1960, the ASA had approved the 1961 American standards, each of which must be supported by evidence of its national acceptance by a consensus of all groups substantially concerned.

The review of standards submitted for approval is of such a volume that the council has delegated this responsibility to a board of review whose membership is also drawn from the council. Elected to serve on the board for 1961 are: Richard B. Belford, Industrial Fasteners Institute; Hendley Blackmon, Westinghouse Electric Corporation (for the National Electrical Manufacturers Association); J. S. Fassett, American Hotel Association; C. M. Heinen, Chrysler Corporation (for the Society of Automotive Engineers); J. W. W. Sullivan, American Iron and Steel Institute; C. W. Franklin, Consolidated Edison Company of New York (for the Electric Light and Power Group); and Mr. Mattocks.

The voluntary national standards program conducted under ASA procedures numbers over 425 projects. U.S. interests participate in 105 international standards projects through the ASA's membership in the International Organization for Standardization (ISO) at Geneva, Switzerland, and the International Electrotechnical Commission (IEC), an independent division of ISO that accounts for 51 of these world standards projects. U.S. participation in international standards work also comes under the jurisdiction of the council.

Mr. Massey has replaced T. E. Veltfort, manager of the Copper and Brass Research Association, who served as chairman from 1958 to 1960. Mr. Massey's chairmanship has made him a member of the ASA board of directors.

Hornby elected chairman of the board, Jacobs president, of Pacific Lighting Gas Supply

W. M. Jacobs

R. A. Hornby

ELECTION of W. M. Jacobs as president of Pacific Lighting Gas Supply Co., Los Angeles, Calif., has been announced, following action by the natural gas transmission and storage utility's board of directors.

Robert A. Hornby, current president, has been elected chairman of the board of PLGS. He has succeeded Robert W. Miller who has resigned as board chairman of PLGS but who remains as board chairman of Pacific Lighting Corporation, parent of PLGS and of Southern California and Southern Counties Gas companies. Mr. Hornby will continue in the position of president of the parent company.

The changes in the assignments of top executives of the Pacific Lighting subsidiary will permit Mr. Miller and Mr. Hornby to devote more time to problems of the Pacific Lighting system as a whole. Also the changes will give PLGS, in Mr. Jacobs, a man well qualified for his new function by his ability and wide experience in the public utility business and in the Pacific Lighting system.

Mr. Jacobs has been in the Pacific Lighting group for more than 30 years and was elected senior vice president of PLGS in 1958. He has served as vice president of Pacific Lighting Corporation since 1956 and will continue in that post.

PLGS has had a rapid growth. Present facilities, totaling approximately $84 million represent an increase of $51 million during the past five years.

Mendelson appointed president, chief executive officer at Hotstream Heater

R. R. Mendelson

RALPH R. MENDELSON has been appointed president and chief executive officer of the Hotstream Heater Co., Cleveland, Ohio. He has succeeded L. R. Mendelson, who has retired.

L. R. Mendelson, founder of the 45-year-old Cleveland firm that manufactures domestic and commercial water heaters, will continue to serve as chairman of the board of directors.

Ralph Mendelson has assumed full executive responsibility for the firm's over-all operations in the production, distribution, sales, and merchandising of its complete line of water heaters. Formerly executive vice president, he has served in various administrative capacities with the company for the past 20 years. He is a graduate of the University of Michigan, with a bachelor-of-science degree in mechanical engineering.

L. R. Mendelson has been a prominent figure on Cleveland's business and industrial scene for the past 50 years. Born in Cleveland in 1889, he attended public schools there, received a law degree from Baldwin-Wallace College in 1912, and was admitted to the Ohio Bar the same year.

After several years' experience in the water heater industry, he organized and established Hotstream in 1915.

Under his direction the company has continued to expand and enlarge to its present-day operations, which include factories in Cleveland and Dallas, Texas. Warehouses are maintained in Chicago, Ill.; Baltimore, Md.; and Dallas.

Feldmann succeeds Ramsey; Marshall, Maranville named in Worthington appointments

ROBERT E. MARSHALL, secretary and general counsel of Worthington Corp., Harrison, N. J., has been elected treasurer of the company. He has succeeded W. R. Shook, who has resigned to become treasurer of Avon Products. C. Robert Maranville has been elected assistant treasurer.

Walther H. Feldmann, president, has been named chief executive officer by the board of directors. He has succeeded Hobart C. Ramsey, chairman and former chief executive officer.

Mr. Marshall, a graduate of Amherst College and Harvard Law School, joined Worthington in 1947 as assistant secretary. He was named secretary of Worthington in 1949 and secretary and general council in 1955.

Mr. Maranville joined Worthington as an accountant in the division at Harrison, N. J., in 1936. In 1958 he was named manager-employee benefits.

Mr. Feldmann, who was associated with Worthington's subsidiary, Electric Machinery Manufacturing Company, first joined Worthington as vice president-sales in 1950. Subsequently he became executive vice president in 1955 and president and director in 1957.

Elect Rocky Mountain officers

MEMBERS of the Rocky Mountain Gas Association, Denver, Colo., at a recent meeting elected the following officers and directors for 1961:

President, Norman F. Patrick; vice president, John Nicholson; vice president, F. V. Wedlick; secretary-treasurer, Harold P. Risley; directors, Eugene Groves, Frank L. Blush, L. John Pohle, Paul W. Young, George Mossbrucker, William E. Stillwell, Elmer A. Hunter, Albert Renz, Paul Walden, James Woodward, Glenn Waddell, and Gerald Holtzinger. Sam Neely served as chairman of the nominating committee.

Mr. Waddell is the retiring president of the organization.

Garrick named PR counsel

GAFFERS AND SATTLER, Los Angeles, Calif., manufacturer of kitchen ranges, hot water heaters, air conditioning equipment, and other household appliances, has named Robert M. Garrick as public relations counsel to direct public relations activities.

The Garrick organization will plan and execute for the firm all corporate public relations programs, including new product promotions.

Mr. Garrick, head of the firm bearing his name, will serve as account supervisor, and Don Wright will be account executive.

System promotes Thibault

ROBERT G. THIBAULT has been promoted from comptroller to vice president-finance of Peoples Gas System, North Miami, Fla.

He joined Peoples as comptroller in 1959. Previously he was assistant treasurer of the Alabama Gas Corporation. Before that he was a senior examiner in the auditing department of The Brooklyn Union Gas Company. Prior to joining Brooklyn Union he was on the staff of Arthur Young and Company, accountants and auditors. He is a graduate of Syracuse University.

Stone and Webster Service Corp. advances Rempe and Storrs

THE BOARD of directors of Stone and Webster Service Corp., New York, N. Y. has elected Peter J. Rempe chairman of the board and chief executive officer and Lucius S. Storrs, Jr., president.

Mr. Rempe had been president and Mr. Storrs executive vice president of the service corporation. As chairman, Mr. Rempe has succeeded Richard N. Benjamin, who became president of Stone and Webster, the parent company, in 1959 and continues in that position.

Mr. Rempe joined Stone and Webster in 1928 and was elected a vice president of the service corporation in 1939. He became senior vice president in 1954, a director in 1957, and president in 1959. His first employment was with El Paso Electric Company. He is an engineering graduate of the University of Texas. He attended New York University's graduate school of business administration.

P. J. Rempe

L. S. Storrs, Jr.

Mr. Storrs joined Stone and Webster in 1933 and was elected a vice president of the service corporation in 1954 and a director and executive vice president in 1959.

Saponaro joins Zinder

F. P. Saponaro

FRANK P. SAPONARO has been named a vice president of H. Zinder and Associates, Washington, D. C. Mr. Saponaro has been with the Zinder organization, consultants and engineers specializing in the power and energy industries, since 1958.

Prior to joining Zinder, he was vice president of Algonquin Gas Transmission Company and before that was manager of the rate department of Texas Eastern Transmission Corporation. From 1942 through 1950 he was with the Federal Power Commission and served as head of that agency's rate filings and contract analysis section. Prior to that he was head of the rate section of the Rural Electrification Administration. He is a graduate of Harvard College.

Bailey joins Southern Union

D. M. Bailey

DANIEL M. BAILEY has been named an executive vice president of Southern Union Gas Co., Dallas, Texas. He is the former vice president of the Continental-Emsco Company of Dallas.

Mr. Bailey is a graduate of the University of Oklahoma, with bachelor-of-arts and bachelor-of-laws degrees, and he attended the Harvard Graduate School of Business Administration. He joined Continental in 1931 as assistant general counsel, after having practiced law in Tulsa, Okla. He was appointed general counsel for the company in 1936, was named assistant vice president in 1948, and was elevated to vice president in 1950. During World War II, he served with the U.S. Army Air Force and was discharged with the rank of major.

Six elected to the executive staff of Philadelphia Gas Works division of UGI

PHILADELPHIA Gas Works, a division of The United Gas Improvement Co., Philadelphia, Pa., has announced the election of William Albright, Richard W. Banks, Charles R. DeHaven, Orlo B. Holman, Hugh T. Maloney, and Nelson W. Wunder to the PGW executive staff.

Mr. Albright joined PGW in 1924 as a clerk, and his entire 37 years of service have been devoted to transportation matters. He served in supervisory positions between 1928 and 1947, when he was promoted to superintendent of the transportation department.

Mr. Banks became purchasing agent in 1958 when he joined PGW. A graduate of the University of Pennsylvania's Wharton School, he served in administrative positions before joining the gas works.

Mr. DeHaven was employed by the gas works as manager of public relations in 1958, following five years as director of public relations for the Pennsylvania Association of Milk Dealers.

Mr. Holman, a registered professional engineer, joined PGW following military service in World War II. Beginning as an engineering assistant, he held supervisory positions leading to his selection as process and maintenance engineer in 1957. In 1960 he was named to fill the position of assistant director of the production department.

Mr. Maloney joined PGW in 1947 as engineering assistant and in 1960 was elevated to assistant director of the production department. A registered professional engineer, he holds a special citation from A. G. A. for his work on the A. G. A. Manufactured Gas Production Committee.

Mr. Wunder has joined the executive staff after 45 years of service. He began his career with PGW in 1915 as a serviceman. He has been supervisor-general appliance servicing and superintendent, customer service operations. In 1958 he was named manager of customer service operations.

O'Hara succeeds Ward as president of the Gas Appliance Society of Hawaii

MICHAEL J. O'HARA, of Electrical Distributors, Ltd., has become president of the Gas Appliance Society of Hawaii. He has succeeded Robert Ward, who has resigned. Thomas A. Replogle, of Lewers and Cooke, Ltd., is the newly elected vice president of the society. He has succeeded Jack Raleigh. These new officers will serve until 1962.

As president of the organization, Mr. O'Hara will be honorary chairman of the second biennial Mid-Pacific Gas Merchandising Conferene to be held February 13 and 14, 1961, at the Hawaiian Village Hotel, Honolulu, Hawaii.

Noyes succeeds Peck

H. B. Noyes

HOWARD B. NOYES has been elected as vice president for gas procurement of Columbia Gas System Service Corp., New York, N. Y. Mr. Noyes has succeeded Irving K. Peck, who has retired after 25 years with the system.

Mr. Noyes, whose office will be in Houston, Texas, will be in charge of Columbia's program for securing new natural gas reserves in the Southwest.

Mr. Noyes came to the service corporation in 1958 from the Washington (D. C.) Gas Light Company, where he was senior vice president.

Mr. Peck had been associated with companies in the system since 1936, when he was named president and general manager of the New York group of properties. Subsequently, he was named vice president, general manager, and a director of the companies in the Pittsburgh group, which includes The Manufacturers Light and Heat Company.

He held the latter position until 1952 when he was named a vice president of the service corporation and placed in charge of Southwest gas procurement.

Baitz and Beck advanced

A. G. Baitz

A. W. Beck

ALTON W. BECK, vice president, marketing of Robertshaw-Fulton Controls Co., Richmond, Va., since 1958 has been transferred to the West Coast as vice president, Western operations. At the same time, Arthur G. Baitz, who had been director of engineering planning, has become director of marketing.

Mr. Beck, who will have his new offices at Robertshaw's aeronautical and instrument division in Anaheim, Calif., was educated at Utah State Agriculture College and the University of Utah. In 1946 he joined Robertshaw-Fulton's Grayson Controls division as a sales representative, and in 1950 he became assistant vice president and general sales manager of that division. Since 1958 he has been marketing vice president of the headquarters in Richmond.

Mr. Baitz attended Tri-State College in Indiana and the University of Buffalo. He has been with Robertshaw-Fulton since 1951. Before assuming his present duties in Richmond, he was director of sales training at the company's Fulton Sylphon division in Knoxville, Tenn.

R. W. Stoneburner appointed

R. W. Stoneburner

ROGER WHITNEY STONEBURNER has been named manager of exploration of Southern Natural Gas Co., Birmingham, Ala. He has assumed his new duties as manager of the company's geological and geophysical activities at the office in Houston, Texas.

He was formerly vice president and manager of exploration of San Jacinto Oil and Gas Company.

Maytag promotes Barton

D. E. Barton

DONALD E. BARTON has been promoted to manager of market development of The Maytag Co., Newton, Iowa. The move is part of a growing emphasis on this area as a major responsibility in Maytag's over-all marketing program.

In his 12 years with Maytag, Mr. Barton has developed a wide range of experience with particular emphasis on retail merchandising. For more than a year, he has served on Maytag's marketing headquarters staff.

Maull joins Ebasco Services

LEWIS C. MAULL has been appointed manager of management consulting services for the south central regional office of Ebasco Services.

Mr. Maull has for the last 15 years been associated with the management consulting activities of leading accounting firms. Before joining Ebasco, he was a partner of Peat, Marwick, Mitchell & Company in Dallas. His professional background includes assistance to more than 400 organizations.

Previously, he had 10 years' experience with Curtis Publishing Company, General Aviation Equipment Company, Worthington Corporation, and the Cost Inspection Service of the U. S. Department of the Navy.

Portland honors Dignan

P. D. Dignan

PATRICK D. DIGNAN, assistant to the vice president in charge of marketing of Northwest Natural Gas Co., Portland, Ore., was recently selected Junior First Citizen of the Year.

Mr. Dignan was chosen for the honor on the basis of his contribution to civic work and participation in community affairs.

Texas Gas elects Handley

J. S. Handley

JAY S. HANDLEY has been elected vice president in charge of drilling, production, and production engineering for Texas Gas Exploration Corp., Houston, Texas.

He will be in charge of all drilling and production operations for Exploration. He formerly was superintendent of the company's drilling and production department.

He joined Exploration in 1956.

Clayton Nairne honored

C. L. Nairne

CLAYTON L. NAIRNE, executive vice president of New Orleans Public Service, New Orleans, La., has been designated as recipient of the Louisiana Engineering Society's 1960 Civic Affairs Activities-Andrew M. Lockett Medal.

The award is given annually to the Louisiana engineer who displays a high degree of interest and ability in altruistic community affairs. It is one of only two awards to be made by the society for 1960.

A. Cave Richardson named

CHATTANOOGA Royal Co., Chattanooga, Tenn., has announced the naming of A. Cave Richardson as vice president and general manager and of George M. Childress as vice president, manufacturing and engineering.

Roper appoints Hoover

GEO. D. ROPER Corp., Kankakee, Ill., has announced the appointment of Charles M. Hoover as director of marketing.

Mr. Hoover, 41, has served for the past two years as general sales manager of the Marquette Corporation, marketers of a full line of major home appliances.

Public Service names Freer

FRANK FREER, JR., has been elected vice president and comptroller of Public Service Electric and Gas Co., Newark, N. J.

A graduate of New York University, he was employed as a bookkeeper with Public Service in 1920 and was promoted to assistant chief accountant in 1935. He was named chief accountant in 1945, assistant comptroller in 1950, and comptroller in 1957.

He has been active on taxation, accounting and managing committees of the Accounting Section of A. G. A. and is a member of the Controllers Institute of America and the Institute of Internal Auditors.

Faunce to direct research for John Wood Company

JOHN WOOD Company has announced the election of Stuart F. Faunce as vice president and director of research. The company manufactures, among other types of equipment, gas and electric water heaters.

Dr. Faunce, following his graduation from Ohio State and Purdue universities, gained experience at the Armour Research Foundation, General Dynamics Corporation, and the University of Oklahoma, before becoming director of research of John Wood Company in 1958.

Names in the news—a roundup of promotions and appointments

UTILITY

Public Service Electric and Gas Co. has announced the promotions of **Clayton S. Cronkright** to general manager-area development and of **Jack V. Richards** to general manager of the gas department. Mr. Cronkright had been manager-area development since 1955. A graduate of Rensselaer Polytechnic Institute, he joined Public Service in 1926. Mr. Richards, also a graduate of Rensselaer, joined the utility in 1921 as a cadet engineer.

Consolidated Edison Company of New York has announced the appointments of **William J. Murphy** as general fuel agent and **Atherton Thomas** as fuel agent. Mr. Murphy, who joined the company in 1920, was appointed fuel agent in 1954. Mr. Thomas, who was assistant to the vice president in charge of engineering, has been with the firm since 1924. He was responsible in his former position for the coordination of natural gas matters and served as technical adviser in legal and regulatory aspects in this field.

Philadelphia Electric Co. has announced the appointment of **Henry R. Flanegan** as manager of its Philadelphia division and customers service department. An alumnus of the Wharton School of the University of Pennsylvania, Mr. Flanegan has been associated with the company since 1924. He had been manager of the customers service department since 1952.

MANUFACTURER

Philip B. Lockwood has been named West Coast branch manager for the Airtemp division of Chrysler Corp. He will be in charge of sales for Chrysler packaged heating and cooling equipment in California. He has been with Airtemp since 1955.

A. J. (Art) Horn, 1961 president of the Los Angeles Institute of Heating and Air Conditioning Industries, has been named to head the newly created engineering services department that merges and expands the sales engineering departments of The Payne Co. and Day and Night Manufacturing Co. The new department will serve both companies with technical services, including the development and publication of application and service manuals and the operation of sales and service schools. Most recently associated with Day and Night in sales and engineering capacities, Mr. Horn was for many years associated with The Payne Co.

Rosemary Archibald has been appointed as home service director of Harper-Wyman Co. Prior to joining the company, Miss Archibald was kitchen planning supervisor with Milwaukee Gas Light Co. and district home economist for International Harvester Co. She is a graduate of the University of Illinois.

David A. Ballantyne has been appointed as a territory manager for The Tappan Co. A graduate of Ohio State University, he joined Tappan as a sales trainee in 1959. He has succeeded **Homer V. Miller** who has been given special assignments. Mr. Miller, a 35-year employee, had managed the northwestern Ohio territory for Tappan since 1928. He is a three-time winner of the firm's annual top-ten salesmen contest.

Harmon Cutler has been promoted to the post of plant manager by Cal-Metal Pipe Corporation of Louisiana. He had been superintendent of the Cal-Metal plant at Baton Rouge, La., before becoming plant manager and assuming the added responsibilities of the newly created position. He has been with the firm since 1955. **Seth S. Kidman** has become superintendent of the plant. He was formerly assistant plant superintendent and has been with Cal-Metal since 1959.

Jessie Cartwright has been appointed home economics director for Norge laundry and cleaning appliances. She will be responsible for consumer education for the Norge Laundry and Cleaning Village, which provides the new coin-operated dry cleaning services, as well as automatic washing and drying. She will work closely with distributors, operators, and consumers. She has been a director of Norge home service since 1948, has taught creative writing, and has written for leading women's magazines.

Brabant Brass Manufacturing Co. has announced the appointment of **William J. Wildern** as vice president and general manager. A graduate of the University of Michigan in 1932, Mr. Wildern has been in the industry for 21 years, the first 16 of which were spent with Detroit Brass and Malleable Co.

John I. Rudge, former executive vice president of Carlon Products Corp., has been named president of the firm. A graduate of the University of Pittsburgh, he has been with Carlon since 1948. In another development, **William W. Clark,** of Continental Oil Co., has been appointed secretary of Carlon.

OTHER

Aaron H. Griffin has been appointed as manager of the Louisiana division of Texas Gas Transmission Corp. He has succeeded **W. O. Davis,** who has been transferred to Memphis, Tenn., where he will assume the management of the pipeline department of the company's division office. Mr. Griffin, a former assistant superintendent of the dispatching department, joined Texas Gas in 1949.

CONVENTION CALENDAR

1961

FEBRUARY

23-24 •A. G. A.-Pacific Coast Gas Association Public Relations Workshop and PCGA-Canadian Gas Association-A. G. A. Joint Public Relations Conference, Benson Hotel, Portland, Ore.

MARCH

13-17 •National Association of Corrosion Engineers, Annual Conference and Corrosion Show, Hotel Statler, Buffalo, N. Y.

16-17 •New England Gas Association, Annual Meeting, Statler Hilton Hotel, Boston, Mass.

20-22 •A. G. A. General Management Section, Annual Conference, Francis Marion Hotel, Charleston, S. C.

27-28 •Mid-West Gas Association, Annual Meeting and Convention, Sheraton-Fontenelle Hotel, Omaha, Nebr.

APRIL

2-4 •The Women's Housing Congress, Mayflower Hotel, Washington, D. C.

4-5 •Gas Compressor Institute, National Guard Armory, Liberal, Kans.

4-6 •A. G. A. Research and Utilization Conference, Sheraton-Cleveland Hotel, Cleveland, Ohio

6 •Pennsylvania Gas Association Fourth Annual One-day Distribution Conference, Tally Ho Inn and Hotel, Valley Forge, Pa.

7 •Maryland-District of Columbia Utilities Association, Spring Conference, Lord Baltimore Hotel, Baltimore, Md.

11-13 •A. G. A. Sales Conference on Industrial and Commercial Gas, Prince Edward, Windsor, Ontario, Canada

13-15 •Gas Appliance Manufacturers Association, Annual Meeting, Boca Raton Hotel and Club, Boca Raton, Fla.

16-19 •A. G. A.-Edison Electric Institute National Conference of Electric and Gas Utility Accountants, The Chase-Park Plaza Hotels, St. Louis, Mo.

18-20 •Southwestern Gas Measurement Short Course, University of Oklahoma, North Campus, Norman, Okla.

20-21 •Indiana Gas Association, Annual Convention, French Lick, Ind.

24-26 •Southern Gas Association, Annual Convention, New Orleans, La.

30-May 2 •Independent Petroleum Association of America, Midyear Meeting, Roosevelt Hotel, New Orleans, La.

30-May 3 •Air Conditioning and Refrigeration Institute, The Homestead, Hot Springs, Va.

30-May 3 •Liquefied Petroleum Gas Association, Annual Convention and Trade Show, Conrad Hilton Hotel, Chicago, Ill.

Personnel service

SERVICES OFFERED

Supervisory and Management—experience local level. Customer's accounting, auditing and all related duties. Twenty years' experience, early forties. Detailed resume upon request. **2005.**

Administrator—gas utility executive, age 55, in good health and 25 years' experience in operations, engineering, labor relations and management in gas distribution companies desires position with medium size utility. Location and salary negotiable. Available on short notice. **2006.**

Treasurer-Controller—of small distribution company desires change to challenging position in active company with growth problems. CPA, age 35, with eleven years of big-company background in public accounting, production, transmission, storage and distribution. Heavy experience in securities issuance and public relations. $12,000 to $15,000. **2007.**

Staff Assistant-Personnel or Operations—ten years' gas and electric utility experience. Heavy in personnel administration, also interested in distribution, or staff assistant to management. College graduate. BS industrial economics, minors EE and GE. Age 38. Will relocate. Salary open. Complete resume on request. **2008.**

Interested in position in **Research and Development Department of Appliance Manufacturer.** Eight years' experience in design, development and testing of gas, oil and electric lines. **2009.**

Graduate Chemical Engineer—12 years' broad experience in natural gas industry in the U. S. and overseas wishes engineering/management position with consulting firm or operating company. Have designed, constructed, operated, and managed complete gas distribution and transmission systems. Also operated water distribution system and familiar with electrical distribution. Held positions of chief engineer and operating division manager. Prefer location in western U. S. or overseas. **2010.**

Air Conditioning Sales, Management—broad experience product, auxiliaries systems at staff and field levels. Specialist in sales approach simplification, salesman progress evaluation; clinical workshops for engineers, dealers, utility local office personnel. Worked east, midwest, south. No location or travel limitations. **2011.**

Sales Engineer—11 years' experience in promoting heating and air conditioning equipment. Working at all levels, dealer wholesale and utility. Thoroughly familiar with boiler conversions, commercial gas application, and all surveys. Married, family, age 35. Degree in mechanical engineering. Resume on request. Willing to relocate. **2012.**

Exploration Geologist—M.S. degree. Sixteen years all phases of subsurface geology with two major oil companies in responsible line and staff positions. Mid-continent, Texas, Eastern, and Rocky Mountains. Married, age 44, relocation welcome. Resume and references on request. **2013.**

Sales and Management—technical education and degree, combined with more than 20 years of sales management experience with gas equipment and appliance manufacturers. Widely known throughout the gas industry including gas associations, individual utility companies, and manufacturers. Have served each of these groups as special consultant on sales management and technical projects during the past five years. Salary open. Will relocate. **2014.**

Home Economist—ten years' experience in all phases of home service work for straight gas and combination company as advisor, supervisor, promotion, education; public relations work included TV and radio appearances, program development, training, writing, lectures, kitchen planning and appliances. Seeking home service director's position. BS from Cornell. Resume and references on request. Willing to relocate. **2015.**

Gas Production Engineer—your chance to help refugee from Cuba and acquire excellent engineer. Age 39. Bilingual. Fourteen years' experience in gas production but graduate electrical engineer. Highly recommended. **2016.**

Experienced Sales or Commercial Manager Available—fully schooled and experienced in all phases of utility merchandising, sales promotion, advertising, sales training, etc. Age 38, family. Will relocate. Will supply resume and personal data upon request. **2017.**

POSITIONS OPEN

Sales Representative—excellent opportunity for aggressive sales organization with background in gas-fired hydronic heating and cooling equipment now calling on jobbers, contractors, architects, builders and utilities. Able to organize sales meetings and render technical field service. Territories open in Richmond, Cleveland, Birmingham, Memphis and Louisville. Applications held in strict confidence. **0961.**

Instrument Application Engineer—major New England instrument manufacturer expanding activity in gas distribution and transmission industry has opening for graduate electrical or mechanical engineer in application engineering department. Several years' experience in gas industry desired. Should have interest in working with our field engineers and customers on telemetering and other instrument problems. Age 24-36. Located at main plant. Some traveling. Send resume. **0962.**

Meter Reader Supervisor—expanding Great Lakes utility seeks man with meter reading and supervisory experience for new office. Will supervise work of 25 men and administer office procedure. Excellent starting salary and full benefits. Submit resume including age, education, experience, and salary desired. All replies confidential. **0963.**

Engineers—Philadelphia utility with divisions in eastern Pennsylvania can use three engineers on distribution work. Would prefer men with supervision experience. Give details of education and experience in reply. **0964.**

Industrial Engineer—long established utility desires permanent services of combustion engineer. Must be college engineer graduate, five years' experience in combustion engineering field. Send resume including photograph with first reply to Northwest Natural Gas Co., Personnel Office, 132 N.W. 2nd & Flanders, Portland, Ore. **0965.**

Gas Promotion Engineer—engineering degree preferred with at least two years' experience in the industrial, commercial and central house heating, air-conditioning and miscellaneous appliances, covering gas sales, engineering, supervisory installation and service. Must be thoroughly experienced in preparing heating and air-conditioning surveys and selling gas equipment for the promotion of gas sales. Starting salary, $520-630 per month. Maximum age, 35. Send full resume to Director of Personnel, City of Pensacola, Pensacola, Fla. **0966.**

Engineer, Gas Distribution—graduate chemical, civil or mechanical engineer interested in the field of gas distribution; duties involve engineering, operation and promotional activities for Wisconsin utility. Write stating age, experience and salary expected. **0967.**

F. A. Loney

manager of the claims division of Philadelphia Electric Co., Philadelphia, Pa., died December 25, 1960, after an illness of several months. He was 66.

Mr. Loney began his association with the utility in general clerical duties and had been engaged in claims work since 1917. He became superintendent of claims in 1929, was named director in 1932, and had served as manager of the claims division since 1938.

Surviving are his widow, the former Margaret Agnes Irwin, and two daughters.

R. S. Child

who was 74 and the retired associate director of personnel administration of Central Hudson Gas and Electric Corp., Poughkeepsie, N. Y., died January 15, 1961.

Mr. Child joined Central Hudson in 1920 as an engineer and served in engineering, accounting, and personnel functions until 1944, when he was appointed associate director of the personnel administration department. He retired in 1957.

He was responsible for the development of several employee insurance, pension, and health benefit programs adopted by Central Hudson and by companies throughout the utility industry. He served as a consultant in this field to several industrial organizations and institutions and was the author of several articles on benefit programs. He was a charter member of A. G. A. and a onetime member of the A. G. A. Personnel Practices Committee.

He is survived by his widow, Elise Pratt Funsten Child.

T. P. Walker

retired chairman of the board of Transcontinental Gas Pipe Line Corp., Houston, Texas, died January 10, 1961. He was 69.

Mr. Walker retired as chairman of Transcontinental in 1958 but had continued as a director. He was president of the company from 1953 to 1957.

Prior to joining Transcontinental he was vice president of Irving Trust Company in charge of its public utility department. Earlier he was president of Gulf States Utilities. His long career in public utilities began in 1919, when he was superintendent and manager of the Haverhill (Mass.) Gas Light Company.

He was graduated from the University of Nevada in 1915. In World War I, he served as a first lieutenant with the First Division, American Expeditionary Forces, and was awarded the *Croix de guerre* and Silver Star with oak leaf cluster.

Surviving him are his widow, the former Ruth Pyle; three daughters; and eight grandchildren.

R. H. Knowlton

who was 78 and retired chairman of the board of The Connecticut Light and Power Co., Berlin, Conn., died January 11, 1961.

He came to the utility from The United Gas Improvement Company in 1926 and was made a vice president the following year. He became executive vice president in 1939 and president in 1948. He was elected chairman of the board in 1952 and retired in 1954. He had been a director since 1935.

A. G. A. advisory council

E. J. BOOTHBY.....Washington, D. C.
F. D. CAMPBELL.....Cambridge, Mass.
O. S. CARPENTER.....Houston, Texas
MARVIN CHANDLER.....Aurora, Ill.
C. E. CLOUD.....Little Rock, Ark.
SHELDON COLEMAN.....Wichita, Kan.
C. V. COONS.....New York, N. Y.
STUART COOPER.....Wilmington, Del.
R. E. CRAWFORD.....Minneapolis, Minn.
H. WILLIAM DOERING..Springfield, Mass.
C. H. GUEFFROY.....Portland, Ore.
L. C. HARVEY.....Syracuse, N. Y.
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ROBERT A. HORNBY..San Francisco, Calif.
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F. A. KAISER.....Detroit, Mich.
JULIUS KLEIN.....Jenkintown, Pa.
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G. F. WATTERS.....Syracuse, N. Y.
J. THEODORE WOLFE.....Baltimore, Md.
D. K. YORATH...Edmonton, Alta., Canada

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General Promotional Planning Committee
Chairman—Frank M. Foster, Southern California Gas Co., Los Angeles, Calif.

General Research Planning Committee
Chairman—Fred W. Batten, The Columbia Gas System Inc., New York, N. Y.

General Public Information Planning Committee
Chairman—R. J. Rutherford, Worcester Gas Light Co., Worcester, Mass.

FINANCE COMMITTEE

Chairman—James Comerford, Consolidated Natural Gas Co., New York, N. Y.

LABORATORIES MANAGING COMMITTEE

Chairman—William J. Harvey, Public Service Electric and Gas Co., Newark, N. J.

APPROVAL REQUIREMENTS COMMITTEE

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Pres.—R. C. McPherson, Canadian Western Natural Gas Co., Ltd., Calgary, Alberta.
Man. Dir.—W. H. Dalton, 2532 Yonge St., Toronto, Ontario.

GAS APPLIANCE MANUFACTURERS ASSOCIATION
Pres.—Wendell C. Davis, Cribben and Sexton Co., Chicago, Ill.
Man. Dir.—Harold Massey, 60 East 42nd St., New York, N. Y.

FLORIDA NATURAL GAS ASSOCIATION
Pres.—John T. Bills, Peoples Gas System of Florida, North Miami, Fla.
Sec.-Tr.—H. H. Phipps, The Houston Corp., St. Petersburg, Fla.

GAS AND PETROLEUM ASSOCIATION OF ONTARIO
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Sec. and Asst. Tr.—H. B. Fry, United Gas Ltd., Hamilton, Ontario.

INDIANA GAS ASSOCIATION
Pres.—Carl D. Rees, Northern Indiana Public Service Co., Hammond, Ind.
Sec.-Tr.—R. A. Steele, Citizens Gas & Coke Utility, 2020 N. Meridian St., Indianapolis, Ind.

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Man. Dir.—Robert R. Suttle, 1524 Life of American Building, Dallas, Texas.

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Pres.—Harry I. Miller, Wisconsin Public Service Corp., Milwaukee, Wis.
Man. Dir.—Dale F. Hansman, Empire Building, Suite 522, 710 North Plankinton Ave., Milwaukee, Wis.

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ROY E. JONES	Waukegan, Ill.	S. D. WHITEMAN	Hastings, Nebr.
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General Management Section	GORDON C. GRISWOLD	The Brooklyn Union Gas Co., Brooklyn, N. Y.
Industrial and Commercial Gas Section	L. J. FRETWELL	Oklahoma Natural Gas Co., Tulsa, Okla.
Operating Section	HERMAN L. FRUECHTENICHT	Consumers Power Co., Jackson, Mich.
Residential Gas Section	J. J. McKEARIN	Laclede Gas Co., St. Louis, Mo.

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Assistant Managing Director	JOHN W. WEST, JR.
Assistant to the Managing Director	HAROLD S. WALKER, JR.
Director, A. G. A. Laboratories	FRANK E. HODGDON
Manager, Pacific Coast Laboratory	W. H. VOGAN
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Librarian	EDITH W. FINCH
Controller	ROBERT J. CUTTING
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